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ABSTRACT

The papers in this volume are concerned with rural development, with emphasis on the problems of low-income groups. Stephen McDonald explores economic factors in farm outmigration. Virgil Christian, Jr. and Adamantios Pepelasis discuss the extent and importance of economies of size in agriculture. Thomas Till analyzes the nature and extent of nonmetropolitan industrialization, especially in the South. In his analysis of economic growth, poverty, and race in the nonmetropolitan Deep South, James Walker makes it clear that poverty in the U.S. is disproportionately a nonmetropolitan Southern phenomenon. Niles Hansen defines the growth center concept, evaluates the experiences of the Appalachian Regional Commission and the Economic Development Administration, and concludes with a defense of a human resource development and growth center strategy. Ray Marshall summarizes the issues and concludes that economic development depends heavily on the quality of human resource development; public policy should make it possible for those who elect to remain in rural areas to develop themselves to the point where they can at least earn enough to elevate themselves out of poverty. Marshall suggests that the kinds of activities likely to promote rural human resource development should include improvements in the quality and quantity of rural education (especially vocational-technical education) to prepare people for nonfarm as well as farm jobs. (BR)

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HUMAN RESOURCE DIMENSIONS OF RURAL DEVELOPMENT

Edited by
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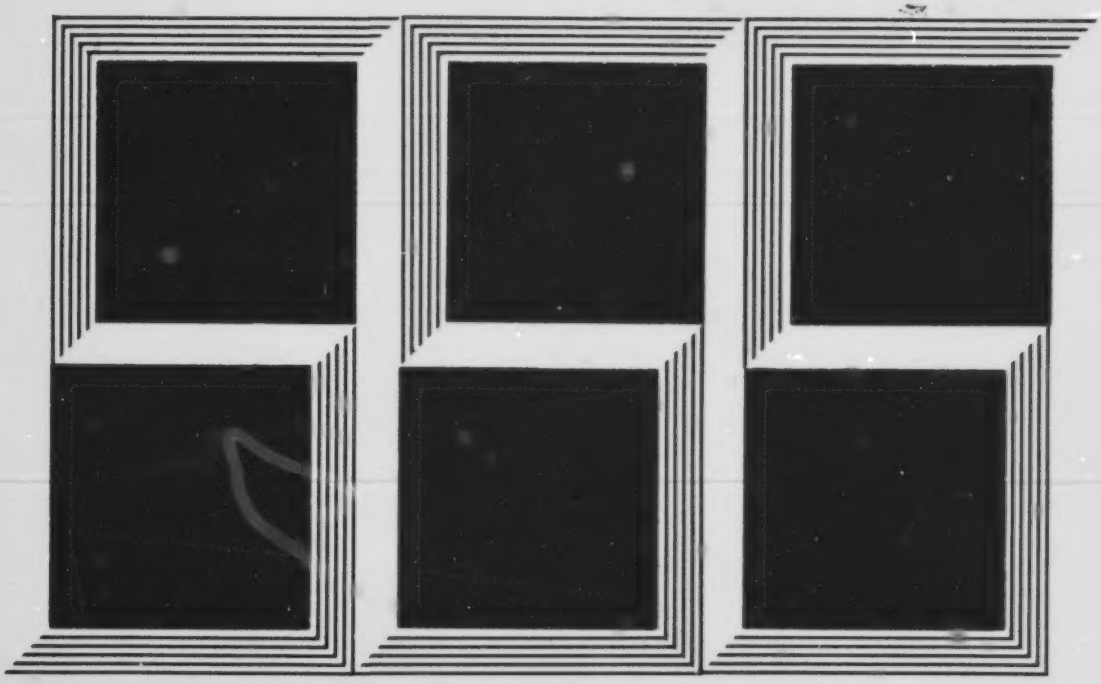

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HUMAN RESOURCE DIMENSIONS OF RURAL DEVELOPMENT

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HUMAN RESOURCE DIMENSIONS OF RURAL DEVELOPMENT

RAY MARSHALL, EDITOR

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PREFACE

The papers in this volume grew out of a research conference on "United States Agricultural Policy and Rural Labor Markets" organized by the Center for the Study of Human Resources at the University of Texas at Austin on April 30, 1971 under funding from the United States Office of Economic Opportunity (Grant CG-6994). They have been revised and updated by the authors for inclusion in this publication.

Researchers undertaking studies under Government sponsorships are encouraged to express freely their professional judgment. Therefore points of view or opinions stated in this volume do not necessarily represent the official position of the United States Office of Economic Opportunity or any other Government agency.

Several persons assisted in the preparation of Human Resource Dimensions of Rural Development. Special thanks should be given to Sandra Illig who helped to coordinate communications with the authors and who, together with Nancy Richey and Robert Glover, edited the manuscript.

Chapter I

Introduction

The papers in this volume are concerned with rural development, with emphasis on the problems of low-income groups. The basic problem of rural America has been a long-run trend toward the displacement of people from agriculture, many of whom have not been prepared by education, training, or experience for nonfarm employment. Those who were prepared and moved to urban areas prospered, while those who were not became low-wage urban workers or remained in rural areas, either as agricultural workers, small farmers or rural nonfarm workers. The rural population has remained fairly constant at around fifty million since 1910 (fifty-four million in 1970) because the rural nonfarm population has grown to offset the decline in the farm population. About four million of the thirty million in the rural work force remain in agriculture, some of whom have prospered while many others work for less than poverty-level incomes, and still others are not working because of inadequate rural job opportunities, even though they are not officially counted as unemployed. Small farmers with the ability and resources to adjust to changes, have been displaced at a rapid rate while the more affluent have grown larger with the help of U.S. agriculture and tax

policy. Blacks have been displaced much faster in the South, where almost all of the nation's rural blacks are concentrated.

The rapid growth of manufacturing employment in rural areas also had differential effects on income and employment. Those who were able to get jobs -- generally whites with skills and education -- have done relatively well, while many others have not participated in the benefits of rural development. Many rural nonfarm workers and their families continue to farm part-time. Indeed, in 1969 farm operators received 52 percent of their income from nonfarm sources; farm operators with incomes below $10,000 obtained about two thirds of their income from nonfarm sources.

These rural developments and consequent rural-to-urban migration create serious national problems. The implications for urban areas of large-scale influxes of people who are not prepared for nonfarm jobs are fairly obvious. Less obvious, because they tend to be relatively inconspicuous in a society where information comes mainly from urban news media, are the effects of these developments on rural areas. Many are concerned, for example, about the long-run implications of control of American agriculture by agribusiness interests, whose large-scale use of chemicals has important consequences for the environment. There also is concern that the heavy incidence of rural poverty and

inadequate attention to human resource development creates self-sustaining cycles of poverty and welfare dependence.

Students of rural development generally agree on the seriousness of the problems, but do not agree on solutions. Some argue for programs to move surplus rural populations to urban areas through relocation and training programs. In this view, rural areas are not economically viable in the sense of being able to provide decent incomes for all of the people living there. Those who take this position feel that public programs to attract industries to rural areas would be a less efficient use of resources than facilitating outmigration from those areas.

Proponents of rural industrialization disagree with these conclusions and argue that programs to help small farmers and farm and nonfarm workers could revitalize rural areas, provide decent living conditions for all rural people, and reduce urban decay. The main area of agreement between those who take various sides in this debate is that human resource development programs have an important role to play in any strategy to improve the conditions of rural people, either where they are or in urban areas.

The papers in this volume examine some rural development issues. In chapter II, Stephen McDonald explores the economic factors in farm outmigration. On the basis of of an economic model of migration he concludes that a

major reason for the persistence of farm-nonfarm income differentials is inadequate earning capacity of those who are displaced rather than because of either impediments to off-farm movement, or because rural people are not motivated by economic gains. McDonald finds the motives for off-farm migration to be explained largely by economic factors. He is skeptical of programs to promote the industrialization of lagging rural areas. In order to attack the "persistent low income problem in American agriculture" he favors programs "(1) to facilitate successful outmigration in association with continued rapid technological progress in agriculture, so that both those who move and those who remain may realize higher incomes, and (2) . . . direct transfer payments to the farm poor for whom successful outmigration is not a feasible alternative." He prefers measures to facilitate outmigration, and suggests some ways this could be done.

In chapter III Virgil Christian and Adam Peplasis discuss "Farm Size and the Displacement of Farm Families in Southern Agriculture." The extent to which there are economies of size in agriculture is important because of its implications for the ability of small farmers to compete with larger ones. It also would be useful to know whether displacement has been due to U.S. agricultural policy or other considerations. This paper concludes that there are

no across-the-board economies of size in agriculture and that small farmers in general and small black farmers in particular have been displaced partly because of the regressivity of American agricultural policy and partly because of limited access to capital and technical ability to adapt to technological changes. Most of the economies of size in agriculture can be achieved with a one or two-man farm, but technological changes have caused the capital requirements of optimal farms of this size to exceed the reach of many small farmers. These papers also suggest that policies like those discussed in chapter VI of this volume might make it possible for more small farmers to survive.

In chapter IV, Thomas Till analyzes the nature and extent of nonmetropolitan industrialization, especially in the South. He finds that manufacturing employment has grown faster in nonmetropolitan than in metropolitan areas and has a fairly unique character, but that the rural poor have not always benefited from economic growth. Till's analysis suggests thathigh-wage industry does more to improve rural incomes, but does not generate many jobs for rural residents, while marginal industry has a higher employment multiplier, but does less to bring people above the poverty level.

In chapter V, James Walker analyzes "Economic Growth, Poverty, and Race in the Nonmetropolitan Deep South." His

analysis makes it clear that poverty in the United States is disproportionately a nonmetropolitan Southern phenomenon. He defines the Deep South as 244 counties in the South with 5,000 or more blacks in their population, and finds that the most rapid economic growth in the South generally has not been in these counties, but in predominantly white areas. Moreover, blacks generally have not shared proportionately in the growth of nonfarm jobs even in the predominantly black counties. The failure of blacks to participate proportionately in rural industrialization, has forced them to continue to migrate out of the region at a time when white migration has been reduced considerably. Indeed, black poverty probably has been reduced more because of outmigration than from participation in rural growth. In analyzing the reasons for low black participation in economic growth, Walker finds discrimination to be important as well as blacks' inadequate labor market skills.

In Chapter VI, Niles Hansen analyzes "Growth Centers, Human Resources and Rural Development." He defines the growth center concept, evaluates the experiences of the Appalachian Regional Commission and the Economic Development Administration, and concludes with a defense of a human resource development and growth center strategy centered on intermediate-sized cities as the most appropriate

way to improve the incomes of the rural people.

In chapter VII, these rural development issues are summarized and my own conclusions and policy recommendations are presented.

Chapter II

Economic Factors in Farm Outmigration

Stephen L. McDonald*

Introduction

In the three decades ending in 1970, farm population in the United States declined by over 20 million persons, from 30.5 million (23.2 percent of the total population) in 1940 to 9.7 million (4.8 percent of the total population) in 1970. Allowing for the normal excess of births over deaths in the farm population, these figures imply a massive net outmigration from agriculture. In fact, there was a net transfer of 27.9 million persons from the farm to the nonfarm sector from 1940 to 1970.[1]

The purpose of this essay is to survey and evaluate the literature concerning economic factors in this outmigration. The survey is confined to the professional literature appearing as monographs, symposia, journal articles, and reports of commissioned surveys. With a few important exceptions, the works covered were written by economists. Emphasis is on recent publications, most of which have appeared since 1960 and nearly all since 1950. The survey is not exhaustive, due to limitations of time, library facilites, and detective aptitude, but over two hundred pieces were examined in selecting the sixty or so cited.

For purposes of this survey, an "economic factor" means any force or circumstance affecting the private costs and benefits of migration, including psychic costs and benefits. External social costs and benefits, while germane to economic analysis, are disregarded, partly because of the paucity of literature, but chiefly because our emphasis is on explaining the voluntary behavior of individuals and households. Such factors as age, race, and education, while not specifically economic, often have economic implications; where they do, they are treated as economic factors. For example, age must be considered an economic factor since it affects remaining productive life and hence the present value of additional earnings expected from changing occupations.

From the point of view of economics, farm outmigration is significant chiefly because it usually implies, for those in the labor force, a change in occupation or, for those just entering the labor force, the initial selection of a nonfarm occupation by a farm-bred person. But migration is an imperfect indicator of occupational mobility. Aside from the fact that many migrants (e.g., children, housewives, and retirees) are not members of the labor force, an outmigrant may continue work in agriculture after changing residence to a nonfarm location, and, more importantly, a farmer or farm laborer may shift occupations without changing

residence from the farm. Other factors being the same therefore, data on occupational mobility out of agriculture are superior for our purposes to data on outmigration. There is an important body of data on the former type of mobility. However, due to the time spans and other limitations, it cannot substitute entirely for data on outmigration. Therefore, the literature included is based on occupational mobility out of agriculture as an important but not dominant part of the body being presently surveyed under the general rubric of "farm outmigration."

An Economic Model of Farm Outmigration

In searching for, interpreting, and evaluating the literature on economic factors in farm outmigration, it is desirable to have in mind an explicit model of the process tending to expel labor from agriculture. The one adopted here is my choice, but it appears to be consistent with the views of most investigators in this field. The key, the consensus seems to be, is rapid technological progress in agriculture.[2]

As technological progress in agriculture occurs, both the marginal and the average physical product of agricultural labor increase, and total farm output tends to rise. This tendency is magnified by natural increase in the potential farm labor force due to a relatively high population repro-

duction rate in agriculture. But, abstracting from exports, the growth of demand for agricultural products is limited by slow growth of total population and by the low income elasticity of demand for most foods and natural fibers. If technological progress in agriculture is sufficiently rapid therefore, farm prices and the value of farm labor's marginal product tend to fall, an effect that is aggravated by the low price elasticity of demand for most farm products. As a result, the wages of farm labor tend to be depressed relative to the wages of nonfarm labor (and some wage and share workers in agriculture may become unemployed). This creates an economic incentive for some actual or potential farm workers to seek nonfarm employment, usually in urban areas, the reallocation of labor tending to reduce or check the growth of the gap between farm and nonfarm wages. If rapid technological progress in agriculture is continuous, outmigration also tends to be continuous. If there are significant lags in or barriers to outmigration, the farm-nonfarm wage gap will persist and may not be greatly narrowed.

The outmigration decision is presumed to be based on benefit-cost comparison.[3] The benefit is the expected gain in income adjusted for possibly greater amenities and possibly higher living costs in urban areas. Since the gain may be expected to accrue over a number of years, possibly

the remaining working life of the decisionmaker, it should be discounted to the present so that its present value may be compared with costs of outmigration. The discount rate logically should reflect not only the cost of capital to the decisionmaker, but also a premimum reflecting uncertainty as to the magnitude and timing of the gain in income. If uncertainty is great, reflecting, for instance, above-normal unemployment rates in urban areas or scanty information about urban opportunities, the rational discount rate may be very high.

The costs of outmigration include the expenses--including possible capital losses--of selling farm assets, the out-of-pocket expenses of search for urban housing and job, and the opportunity cost (income lost) of the time spent in moving and searching for housing and a job.[4] To these may be added the psychic costs of leaving friends and relatives and breaking established community ties. The total costs tend to be minimized if the prospective migrant is young and unattached, owns no farm assets or household goods, is unemployed or underemployed in agriculture and has a nonfarm job waiting for him in a nearby urban area. They tend to be maximized if the opposite conditions prevail and the prospective migrant is mature and has a family, owns farm assets and household goods, is fully employed on his farm, and must search for housing and a job upon arriving in a distant urban area.

Given a persistent need to transfer labor from farm to nonfarm occupations in order to equalize worker incomes at the margin, but given significant costs of outmigration, the gap between farm and nonfarm incomes is not likely to be closed by rational, unassisted outmigration from agriculture. Continuous disequilibrium due to lagged adjustment is probable; and even in dynamic equilibrium the discounted gap at the margin must be equal to the marginal cost of outmigration.

Some Hypotheses

This model suggests a number of hypotheses:

1. Potential outmigrants detect and respond to a significant difference between their prospective incomes in agriculture and their prospective incomes in some other attainable occupation. Such a difference is the chief reason for outmigration.

2. For most outmigrants the economic gains exceed the costs.

3. Outmigration responds to the apparent nonfarm employment opportunity evidenced by rates of unemployment in urban areas.

4. Excluding subteenagers and those of retirement age, rates of outmigration vary inversely with age; the young have the lowest costs of migration and the greatest present value of expected income gains.

5. Rates of outmigration vary inversely with distance to nonfarm employment opportunity because of both migration costs and quality of information.

6. Despite continuous net outmigration from agriculture for a number of decades, the farm-nonfarm income gap persists.

These hypotheses will provide the basic framework for organizing our discussion of the literature.

Some General Categories in the Literature

Since our discussion of the literature will be organized around topics rather than authors or works, it will save time and space to give a general description of the literature by type. Most of the literature considered (aside from purely statistical materials) falls into five general categories: (1) studies based on the Social Security Administration's 1 percent continuous-work-history sample, (2) studies based on major surveys of selected "streams" of rural-urban migration commissioned by the Office of Economic Opportunity, (3) studies based on Bureau of the Census data and Department of Agriculture estimates of annual flows of migration out of and into agriculture, (4) one study based on the 1967 Survey of Economic Opportunity, and (5) studies based on local (e.g., county) surveys of migration behavior. The remainder of the literature cannot be simply characterized, but ranges from pieces

outlining conceptual framework to pieces recommending policy.

The Social Security Sample

The Social Security Administration maintains a one percent continuous-work-history sample of persons covered by the social security program. Once an individual is included in the sample, he remains in it; consequently, each individual can be followed year after year and his work history compiled. Data that may be related to individual workers pertain to type of employment (self-employment vs. wage and salary employment), income (subject to minima for participation in the program and maxima for creditable earnings), year of birth, sex, race (black/nonblack only), state, county and industry of employment, and quarters of coverage. Since social security coverage was not extended to farm operators until 1955, the usable data for studying off-farm mobility date from that year. The studies reported on below covered some part of the period 1955-1963.

The great advantage of the social security data is that they permit the following of individuals year after year into and out of agriculture and thus enable the researcher to study year-to-year occupational mobility. With some limitations, they also permit the analysis of migration. Their principal disadvantages are the short period of availability and the limitations of coverage arising from the eligibility rules of the social security system. As for the latter

disadvantage, the Bureau of the Census has estimated that there were 4.1 million persons fourteen years of age or older receiving agricultural self-employment income in 1957, but in that year only 2.4 million persons reported agricultural self-employment income for social security coverage.[5] Apparently the minimum-income and optional-reporting eligibility rules excluded a large proportion of the farm self-employed (presumably the poorest) from social security coverage. Thus the social security sample cannot be regarded as representative of the farm worker population as a whole.

Surveys of Migration "Streams"

Two studies based on surveys of selected "streams" of migration were commissioned by the Office of Economic Opportunity. The first of these, published in December, 1969, was made by Tracor under the direction of Daniel O. Price. The study was based on interview of Mexican-American migrants from South Texas to San Antonio, Texas, and Chicago, Illinois; Black migrants from Yazoo County, Mississippi, to Chicago; and Anglo migrants from Butler County, Kentucky, to Louisville, Kentucky, and Indianapolis, Indiana. Comparative interviews were made also of nonmigrant residents of the rural areas from which the mobile sample originated. Only male Mexican-Americans and Anglos, but both male and female Blacks, were included in the groups interviewed. All migrants were between eighteen and forty

years of age at the time of interview. The rural sample size was 454; the urban sample size 407. The mobility period was 1963-1967.

The second study of this kind was made by Abt Associates, Inc. Interviews were conducted between June and September 1969, at each end of three streams of rural-to-urban migration: a southeastern black stream from the Carolinas and Virginia to Greensboro, North Carolina, and Baltimore, Maryland; an Appalachian white stream from Kentucky and West Virginia to Columbus and Cincinnati, Ohio; and a southwestern Spanish-American stream from New Mexico and Colarado to Albuquerque, New Mexico, and Denver, Colorado. Both males and females were included in all rural and urban samples. The minimum age in each sample was sixteen years. Approximately three hundred interviews were conducted at each end of each migration stream.

There appear to be two main advantages of this type of study. First, it allows an in-depth investigation of the characteristics of migrants and nonmigrants. Second, it permits a detailed comparison of three ethnic groups participating in rural-to-urban migration. Its chief disadvantages stem from the limited time span covered and the relatively small samples, both of numbers of individuals and streams of migration; the results are not necessarily representative of the total migrant-nonmigrant population. In addition, the definition of "rural" in these studies is broader than "farm," so the results are not necessarily

descriptive of farm-nonfarm migration behavior.

Bureau of the Census Data and Department of Agriculture Estimates of Migration

Before the availability of the social security sample pertaining to farm people, students of farm-nonfarm migration had to rely upon data from the census of population and annual estimates of migration made by the Department of Agriculture. (Several of the papers reported on here rely upon such data[6].)

The census data have the advantages of comprehensiveness and reliability. Furthermore, it is possible using these data to relate migration from farms to such factors as age, race, and employment status. But the census of population is taken only every ten years, the migration data derived from it pertain to change of residence (not necessarily change of occupation), and intercensal comparisons are made difficult by occasional changes in the definition of "farm" for census purposes. The annual estimates of migration by the Department of Agriculture also reflect change in residence rather than occupation. Their greatest disadvantage, however, is their low reliability. It is reported that the probability is 45 percent that the estimates will show an annual change in farm population greater than 100,000 when no change has actually occurred.[7] Moreover, the estimates are on an April 1-March 31 basis, reducing their comparability with other annual series.

The 1967 Survey of Economic Opportunity

The 1967 Survey of Economic Opportunity was conducted for the Office of Economic Opportunity by the Bureau of the Census. It is basically a supplement to the current population survey with additional questions asked. In the survey, the primary sample of eighteen thousand households drawn nationwide was supplemented by an additional sample of twelve thousand households drawn from counties with large nonwhite populations. The study cited here pools these two samples "in order to take advantage of as large a sample as possible and, in addition, to make the part of the sample representing the poor and nonwhite populations as large as possible."[8] The data resulting have the advantage of detail with respect to education, age, race, sex, and migration status, and the mixed advantage and disadvantage of giving disproportionate weight to the poor and nonwhites--advantage in that greatest concern is with occupational adjustments of the poor (among which nonwhites figure disproportionately) and disadvantage in that the results of the analysis may not be representative of farm outmigrants as a whole.

Local Surveys of Migration Behavior

The local or small-area surveys cited here[9] typically are made by means of questionnaires designed to elicit infor-

mation as to why farmers in the covered areas leave agriculture. They thus supplement studies based on census or other data, which throw little light on questions of motivation. No one of these alone gives us finding that can be generalized to the whole farm population, but together they are strongly suggestive as to aggregate behavior.

Specific Findings in the Literature

From the foregoing general description of the literature we turn now to specific findings regarding economic factors in farm outmigration. These findings will be presented under topics suggested by the hypotheses listed above.

Motives for Outmigration

The model suggests that farm outmigration may be induced by the prospect of higher incomes in nonfarm occupations, although it does not necessarily indicate that income gain is the only (or even necessarily the dominant) reason for outmigration. The issue of economic motivation is an important one, for on it turns the question of whether income differences between farm and comparable nonfarm jobs tend to be eliminated through appropriate reallocation of labor. The evidence is restricted almost entirely to the results of special surveys, but it is fairly conclusive: farm outmigration is motivated primarily, but not exclusively, by economic considerations.

According to the Abt study, economic considerations were given by actual migrants as the principal reason for migration by 54.8 percent of the respondents, family considerations by 29.8 percent, social environmental considerations by 4.4 percent, and all other considerations by 11.0 percent.[10] Southeastern black migrants indicated primarily an economic motive in 47.2 percent of the cases, Appalachian whites in 62.9 percent, and southwestern Spanish-Americans in 53.4 percent. Taking into account only male head-of-household responses, the precentages rise to 58 percent for the southeast, 74 percent for the Appalachian area, and 69 percent for the southwest. Among nonmigrants in rural areas, the principal reason given for a potential move was economic for 68.4 percent of the respondents, family for 7.9 percent, and social-environmental for 12.3 percent, with the Appalachian, southwestern, and southeastern groups in that order as to the higher percentage giving primacy to the economic reason.[11] Among black migrants, the principal reason given for return to a rural area was economic in 26.2 percent of the cases, homesickness in 51.5 percent, living conditions in 10.0 percent, and all other reasons in 12.3 percent. Again the Appalachian group led in the importance assigned to the economic reason, with southwestern and southeastern groups following in that order.[12]

Although given in less detail, the results of the Tracor

study appear to be similar. It reports: "From 67 percent (Black females) to 85 percent (Mexican-American males in San Antonio) of each of the five groups indicated economic and/or occupational conditions as reasons for moving."[13] Most respondents gave family reasons, not for migrating per se, but for choosing a given urban area to which to migrate.[14] When asked under what conditions they would consider moving back to rural areas 74 percent (black males) to 88 percent (Anglo males) of the migrants surveyed replied either "never" or "if economic opportunity presented itself."[15] Furthermore, most nonmigrants believe that migrants are better off financially for having moved,[16] a finding that together with the others suggests that most rural residents perceive the economic gains to be achieved from migration.

In interviews with two hundred operators in central and northern Illinois who left farming between October, 1960, and March, 1961, Guither found that one-third reported financial reasons as most important in the decision to leave agriculture.[17] Hill, in surveying farmers leaving agriculture in a county in north-central Iowa in 1960, found that approximately three fifths migrated because of low income in farming.[18] In a 1958 survey of over seven hundred industrial workers with farming background in Alabama, the Alabama Business Research Council reported that 55 percent of those surveyed left the farm for more income. The survey also indicated that 19 percent would return to

farming under no conditions, 28 percent only if nonfarm jobs were lost and could not be replaced, and 20 percent only if economic conditions in agriculture were better.[19] The general results of these small-area studies--that economic considerations predominate in the outmigration decision--are not contradicted by any other study found[20] and are reinforced by the results of broader studies of geographical mobility, indicating that migration is positively related to relative income in the area of destination.[21]

The Economic Gains from Migration

The gross economic gains from migration will be considered in this section, and a discussion of costs and implied net gains will be reserved for a later section.

If outmigrants are motivated primarily by the desire to increase their incomes and if they have reasonably good knowledge of their prospects in nonfarm occupations, it is to be expected that the typical outmigrant will in fact experience an increase in income. But if some migration is motivated by noneconomic considerations or if knowledge of nonfarm opportunities is imperfect, it is also to be expected that some outmigrants will experience income reductions. The evidence generally conforms with these expectations: the typical migrant gains, but many do not.

Hathaway and Perkins, used social security data to

determine the following mean gains in income from the year of off-farm mobility to the next succeeding year:[22]

Mobility period	Mean gain in annual income
1957-58	$ 36.73
1958-59	233.62
1959-60	212.20

For the same periods the percentage distribution of gains and losses was:

	Percent in each category				
Mobility period	Loss over $499	Loss 1-499	Gain 0-499	Gain 500-999	Gain over 999
1957-58	26.3	21.9	22.6	11.7	17.5
1958-59	22.7	18.4	20.5	13.8	24.6
1959-60	22.1	20.0	20.9	14.1	22.9

In all of the mobility periods, over 40 percent of the movers experienced losses the first year following change of occupation. The losses were relatively more important and the average gain smaller in the 1957-1958 mobility period, which roughly coincided with a recession.

These appear to be very modest gains indeed. But in appraising them two things should be borne in mind. First, the first-year gains to migration tend to be smaller than later-year gains because the migrant may be relatively unskilled and inexperienced when first taking a nonfarm job.[23] Second, it is the present value of expected annual gains over the period in nonfarm work that counts, and the typical migrant, being young, can look forward to many years of nonfarm work. An income difference of $200

per year for thirty years has a present value, when discounted at 6 percent per annum, of approximately $2,800.

Even though the first-year change in income is not all that counts, outmigrants who experience income losses the year following migration apparently tend to be discouraged. In their study of occupational mobility (as distinguished from change of residence), Perkins and Hathaway found that for the period 1955-1959 the median annual change in income of off-farm movers who remained in the nonfarm sector was +$405, while for those who later returned to farm work it was -$266.[24] In short, those who gain at first tend to remain outside agriculture, while those who lose at first tend to return to agriculture.

Age is a factor, not only because it affects remaining life and therefore the present value of total expected gains, but also because the first-year gains tend to decline with age. For the mobility period 1956-1957, which is reasonably typical of the 1955-1959 period, Perkins and Hathaway report the following association between age and mean first-year changes in income:[25]

Age	Mean change in income
Under 25	+$417
25-34	+193
35-44	+8
45-54	-18
55 and over	-339

This association is undoubtedly one reason why outmigration varies inversely with age.[26]

The Tracor study yields results that cannot be precisely compared with those of Hathaway and Perkins, but which appear to be generally consistent. For the mobility period 1963-1967, it indicates the following distribution of individual income changes for migrants and nonmigrants:[27]

	Percent in each category			
	Over $500 lower	Within ± $500	$500-1000 higher	Over $1000 higher
Mexican Americans:				
Nonmigrants	13.9	26.6	36.7	22.8
Migrants to Chicago	1.9	15.1	20.8	62.3
Black males:				
Nonmigrants	3.1	29.6	37.8	29.6
Migrants to Chicago	7.1	15.3	25.5	52.0
Anglos:				
Nonmigrants	17.8	14.8	25.9	41.5
Migrants	3.6	12.6	44.1	39.6

It is clear that, although migrants achieved greater income gains in the period than nonmigrants, many migrants did not increase their incomes through migration.

Even so, the vast majority of respondents in the Tracor study considered themselves better off in the city than in the original rural area, as the following table indicates:[28]

Where better off	Percent in each category: Mexican Americans (Chicago)	Black males	Anglos
In city	98.3	88.9	87.7
In rural area	1.7	5.1	5.7
No difference	--	6.0	6.6

The authors of the Tracor study attempted to compare the quality of life of migrants and nonmigrants in objective but nonpecuniary terms and concluded: "In terms of physically measurable characteristics of level of living (housing, diet, etc.) the migrants to urban areas without exception showed improvement over the rural nonmigrants."[29]

The ABT study provides further evidence that migrants tend to gain economically from migration, although some individuals do not. For example, as the following table shows,[30] among blacks of those whose last rural income was

Percent falling into last rural income class who have current incomes of:		Last rural income: Less than $3000	$3-5000	Over $5000
Blacks:	Less than $3000	20.1	5.0	3.4
	$3-5000	60.4	61.7	24.1
	Over $5000	19.4	33.7	72.6
Anglos:	Less than $3000	27.3	10.7	9.8
	$3-5000	44.8	35.7	19.5
	Over $5000	28.0	53.6	70.7
Spanish American:				
	Less than $3000	38.9	6.2	8.3
	$3-5000	45.8	58.8	20.8
	Over $5000	15.3	35.1	70.8

less than $3,000 per year, 60.4 percent had current (urban) incomes between $3,000 and $5,000, and 19.4 percent had current incomes over $5,000. But of those whose last rural income was $3000-5000, 3.0 percent had current incomes of less than $3,000; and of those whose last rural income was over $5,000, 3.4 percent had current incomes of less than $3,000. The results for Anglos and Spanish Americans are broadly similar, although their gains do not appear to be as large relatively as those of blacks.

The studies cited thus far measure income gains as the difference between incomes before and after migration. The Wertheimer study differs in that incomes are estimated by means of regressions in which education, age, race, sex, and migration status are independent variables; the gains to migration are estimated as the difference in expected incomes, as given by the regression equations, between migrants and nonmigrants. Wertheimer summarizes his results as follows:

> Migration from rural areas into urban areas yields an earnings difference ranging from about $600 per year for cities with a population of less than 250,000 to nearly $1,100 per year for cities with a population over 250,000. . . . Disaggregating to four city-size categories and three lengths of time after moving shows that there is no gain for the first five years after migrating in all city-size categories, except for cities larger than 750,000. For the latter category of cities there is a $600 per year gain during

> the first five years. During the next thirty years the annual earnings difference ranges from about $550 per year for cities smaller than 50,000, $750 per year for cities between 50,000 and 250,000, $1,375 per year for cities between 250,000 and 750,000, to $1,675 per year for cities over 750,000. After thirty-five years have elapsed, the differences are $825, $950, $1,225 and $825, respectively. 31

Wertheimer goes on to estimate the present value of the expected income gains at the age of twenty and concludes that "the return to migration for most migrants from rural areas to urban areas ranges from $3,650 for small cities, $5,075 for medium cities, $9,125 for large cities, to $12,500 for very large cities, using a 10 percent rate of discount."[32]

In light of the results of the Hathaway and Perkins, Abt, and Tracor studies, Wertheimer's estimated income gains from migration seem very high and imply a major misallocation of labor between rural and urban areas. In appraising his results, however, several points should be noted. First, his sample is heavily weighted with the poor and nonwhites, while the social security data that Hathaway and Perkins use excludes those so poor that they do not qualify for social security coverage. Second, his method of estimating migrant-nonmigrant income differences is unique and has the virtue of specifically controlling for education as well as age, race, and sex. Third, he generally finds no gains to migration in the first five years; and these results are most comparable with the results of the

otner studies, since the latter reflect relatively short periods of time. Although his estimated gains seem large for the long run, they seem small for the short run.

Given the differences in data and technique, there is no way to reconcile the results of the studies cited here nor any way to determine which are more "right." It is significant, however, that all show substantial gains to migration between rural and urban areas (more properly to occupational mobility). Even the most modest gains, when converted to present value, appear to be in excess of reasonable pecuniary costs of moving, which will be considered later.

Migration and Nonfarm Unemployment

Unemployment in the nonfarm sector should be expected to deter net outmigration for one or more of several possible reasons. First, to the extent that potential outmigrants have knowledge of unemployment in the nonfarm sector, an increase in the rate of unemployment will discourage some of them, and gross outmigration will be reduced. Such discouragement is realistic, for in the face of rising unemployment, relatively unskilled and inexperienced workers would presumably have greater difficulty in finding jobs. It should be noted also that many potential outmigrants are proprietors and unpaid family workers and are not compelled to move in any given year, so they may choose to remain in agriculture when nonfarm employment opportunities are re-

duced. Second, a rise in unemployment in the nonfarm sector will cause some previous outmigrants to lose their jobs, and some of them will choose to return to the farm. Return migration will be increased and net outmigration correspondingly reduced. Third, a rise in unemployment in the nonfarm sector tends to reduce the prospective rewards to migration, either because nonfarm wage rates rise more slowly or because the potential migrant views a given increase in income as having a lower probability. A reduction in the prospective reward to migration will be associated with a greater proportion of losses through migration, so both gross outmigration and return migration should change so that the net otuflow of labor from agriculture is reduced.

Net outmigration does in fact respond to nonfarm employment as expected. Bishop, writing in 1960 and referring to a chart depicting net outmigration from 1920 onward, describes the sensitivity of net outmigration to recessions in the following way:

> We see . . . that labor has been responsive to nonfarm employment opportunities. . . . There was a sharp dip in net migration in the early 1930's, followed by another dip in the 1937-38 recession. After World War II many people who had accepted jobs in defense industries and many people who were released from the armed services returned to farms, resulting in net migration to farms for the period 1945-56. Large scale net migration from farms resumed in 1947 only to be halted by a recession in 1948. Following that recession migration increased again until 1951 when the United States was called upon to assume abnormal obligations in providing food and fiber for the people of Korea.

> The high rate of outmigration resumed in 1952 but was reduced during the recession of 1954. Migration recovered in 1955-56 but was reduced again during the recession of 1957-58. 33

Sjaastad has established this relationship more formally, regressing the two-year moving average of the migration rate on the percentage of unemployment in the civilian labor force for the years 1930-1940 and 1947-1957. He got an r^2 of (-).60, which is significant at the 1 percent confidence level.[34] On the hypothesis that the farm-nonfarm per capita income ratio would also help explain the pattern of net outmigration, Sjaastad added this variable to the unemployment rate in a multiple regression analysis of the period 1934-1940 and 1947-1957. This increased r^2 to .67, but the coefficient of the per capita income ratio, while negative as expected, turned out to be statistically insignificant.[35]

Bishop also regressed the rate of outmigration on the unemployment rate and a measure of relative income--the relative earnings of farm and factory workers. He got an r^2 of .32 (significant at the 5 percent level) and a negative coefficient for the unemployment variable as expected. But the coefficient of the relative income variable was positive, contrary to expectations.[36] Further analysis established that the relative income coefficient is positive when unemployment is above the median rate but negative when unemployment is below the median rate.[37] Bishop interprets these

results as meaning that at relatively high rates of unemployment "labor is underemployed in agriculture in the sense that more people stand ready to transfer from farm to nonfarm areas at prevailing relative returns for farm and nonfarm employment than jobs are available."[38] In consequence, dammed-up labor spills out of agriculture in periods of falling nonfarm unemployment despite concurrent improvement in relative farm earnings and begins to respond to relative earnings in the expected way only after unemployment becomes relatively low. This view of labor as "dammed up" due to lack of nonfarm opportunity is consistent with the fact, noted elsewhere by Bishop,[39] that since the 1930s the cyclical behavior of net migration has been due chiefly to the cyclical behavior of gross off-farm migration; migration to farms is relatively stable cyclically.

In their study of occupational mobility, Perkins and Hathaway also note the cyclical variability of off-farm movement, their data spanning the 1957-1958 recession. As the following table[40] shows, the

	Mobility rates (percent)		
	1956-57	1957-58	1958-59
Off-farm mobility	15.6	12.5	13.8
In-farm mobility	10.7	14.3	11.7
Nonfarm unemployment rate (percent)	4.3	6.3	5.5

gross off-farm mobility rate declined by about 20 percent, and the gross in-farm mobility rate rose by about 40 per-

cent, with the result that there was net immobility in the recession of 1957-1958. The "normal" condition of net outmobility was restored in the recovery of 1958-1959. It should be emphasized that the Perkins-Hathaway data refer to occupational mobility rather than to migration per se, but they are consistent with the cyclical behavior of migration.

Elsewhere Hathaway and Perkins note that off-farm mobility of blacks in the South is differentially reduced in recessions. The following data, which are adjusted for multiple-job status, age, proximity to SMSAs, and rurality of county of farm employment, show the net difference in off-farm mobility rates between balck and nonblack farm wage workers in the South in periods of recession, recovery, and stability:[41]

		Amount by which nonblack mobility rate exceeded black rate
Recession:	1957-1958 and 1960-1961	7.8
Recovery:	1958-1959 and 1961-1962	5.4
Stability:	1959-1960 and 1962-1963	5.9

The nonblack mobility rate exceeded the black rate in all periods but by a substantially larger margin in the two recession periods. Thus blacks appear to be unusually handicapped in finding nonfarm jobs during periods of recession.

It may be that farm outmigration is this sensitive to recessions because the occupational structure of outmigrants is heavily weighted in the categories of work most sensitive to the business cycle. Sjaastad presents data on

employed males fourteen years and older in 1950 that show how the occupational structure of outmigrants differs from that of the total working population.[42] (The data are adjusted for the effects of age.)

	Percent difference from total work force
Managers, officials, proprietors	-46
Professional and technical workers	-51
Craftsmen and foremen	-10
Sales workers	-31
Clerical workers	-46
Operatives	+16
Service workers	+2
Laborers (except farm and mine)	+82
Farmers and farm managers	-35
Farm laborers and foremen	+103

It can be seen that outmigrants become operatives and laborers relatively frequently. Such occupations are indeed more sensitive to the business cycle than, say, professional and clerical work, into which outmigrants enter relatively infrequently.

The behavior of off-farm migrants in responding to unemployment is consistent with the behavior of migrants of all origins. Blanco reports that "prospective unemployment," measured as the difference between the actual rate of change in employment and the natural rate of increase of working-age population in each state, explains 85 percent of the variation in interstate movements of population in the period 1950-1957.[43] So unemployment in the destination impedes

migration, a conclusion that seems especially applicable to farm outmigration.

Costs of Migration

As indicated above, the rational and informed prospective migrant would discount to the present the expected gains in income from migration and compare the resultant present value with the present value of expected costs. With psychic income and costs (if any) allowed for, he would presumably migrate if the value of expected income gain exceeded the value of expected costs. If all potential migrants behaved in this way, total migration would continue until the value of expected income gain had been driven down to the value of expected costs--that is, until there would be no net gain to any additional migrant.

For the typical off-farm migrant in recent years a value of expected income gains in the range of $2,000-$4,000 is not unreasonable. Do costs approach this level? For some potential migrants (young single persons, for instance) they surely do not, unless an extraordinary allowance is made for psychic costs of moving, but for others (operators with families, household goods, and farm assets that may have to be sold at a loss, for instance), they may do so.

Maddox has made some calculations that seem to be pertinent primarily to the case of the young single person with no household goods or farm assets. He assumes cash

costs covering transportation and food and lodging between jobs, and opportunity cost equal to the loss of income in agriculture between jobs, and a psychic cost of leaving home and becoming established in a new place.[44] He estimates transportation cost per person, using the trip from Jackson, Mississippi, to Chicago as an example, to range from $10.06 for auto travel (three persons to the car) to $17.98 for bus and $24.44 for train ticket (at 1960 rates), to which he adds 20 to 30 percent for local transportation at origin and destination. Then he assumes ten days to find a job and a week's wait for the first pay check, with an allowance for food and lodging of $5.00 per person per day. The result is a required "nest egg" of $100-115 per person, depending on mode of transportation.[45] The requirement could be lower if friends or relatives were available to live with in the transition period. The total cost would, of course, include opportunity and psychic costs, which Maddox does not attempt to calculate, but which cannot be ignored. One hundred dollars would seem to be a reasonable opportunity cost, so the pecuniary costs are in the neighborhood of $200 per (employed) person. The psychic cost might well be nil or negative for a young single person who is attracted by the relative glamor and activities of the city.[46] These costs seem quite low relative to even such modest prospective gains (around $200 per year) suggested by Hathaway

and Perkins obtainable at a similar time.

Bishop also tends to minimize the costs of migration. Citing The Cost of Geographic Mobility (Area Redevelopment Administration, U.S. Department of Commerce, 1964), he indicates an average moving cost in 1962-1963 per household unit (except those transferred by employers) of $180. Three-fourths of the persons under twenty-five moved for less than $50, and 83 percent moved for costs less than 10 percent of a year's income.[47] Again, such costs seem low relative to potential gains from migration.

Johnson, citing D. D. Osburn, Returns to Investment in Human Migration (unpublished Ph.D. thesis, North Carolina State University, 1966) provides moving cost data derived from a sample of 254 family-head migrants, half white, half nonwhite, into Greensboro and Winston-Salem, North Carolina in 1965. The average costs per family unit break down as follows:[48]

	Average cost of move	
	Whites	Nonwhites
Direct cost of moving	$118	$ 44
Foregone earnings	148	239
Negative gains plus cost borne by employers	226	195
	$492	$478

These costs, somewhat higher than those indicated by Maddox and Bishop, are to be compared with average first-year gains in income of $523 for the whites and $635 for the nonwhites in the sample. Thus the costs of moving were more than

compensated by first-year gains in income for the typical migrant family.

Johnson also reports on a program financed by the North Carolina Pilot Mobility Project under which certain rural poor (unemployed or making less than $1,200 per year) were moved from eastern North Carolina to the Piedmont region of the same state, where nonfarm employment was found for them (no dates given, but 1960s implied). In phase one of the program the average cost of 274 moves was $306, including the costs of finding a job, physical examination, finding housing, financing the move itself, and subsistence until first paycheck received. In phase two, in which greater amounts were spent on counseling and finding job and housing, the average cost of 219 moves was $629. No directly comparable income gains are given, but in conclusion Johnson states that generally moving costs can be recouped in a year or less.[49] He goes on to observe that such a cost-returns relation results in a much higher rate of return to migration than to other investments in human capital. The inference drawn is that potential migrants implicitly employ a very high internal rate of discount, have high psychic costs of moving, are not well informed of nonfarm opportunities, or are influenced by a combination of these three factors. He concludes "Probably the most important constraint on movement of the rural poor is that of information. This constraint has two

aspects: (1) information on job opportunities and (2) information on urban life in general."[50]

The problem of migration costs is complicated by a number of factors. First, as already indicated, costs depend importantly on the age and circumstances of the potential migrant. They may range from virtually nothing for the young, unattached person who can find a job in a nearby city and live with relatives until he does so to several hundred dollars for the head of a family with household goods who must move a great distance to find a job and must provide for his family while doing so. No studies have been found in the literature that reflect actual experience and relate costs to the age and circumstance of the migrant.

Second, as Johnson's above observations suggest, costs depend partly on the effort made by the migrant, or made by others on his behalf, to overcome the barrier of ignorance. Contrast the experience of a man who moves to the nearest town and takes the first job he finds with that of a man who visits several urban centers, develops a number of alternative job prospects, and finally accepts the one judged best. The second man obviously spends more, but he should also realize greater income gains. Apparently we know nothing about the returns to investment from information gathering.

Third, many writers have observed that the returns to migration appear to be high, but no one has considered the

problem of accumulating or borrowing the necessary capital. One or two hundred dollars per person is "small," but it may be difficult for the very poor to accumulate and impossible for them to borrow. Take the cases in the North Carolina Pilot Mobility Project reported by Johnson above, and consider how difficult it would be for a family earning less than $2,200 per year to accumulate $300-$600 for a successful move to urban life. It may be that rural poverty and capital rationing in loan markets account for the high potential return to migration rather than a high implicit rate of discount or high psychic costs.

Finally, the problem of psychic costs defies adequate treatment. Do they exist for some or all potential off-farm migrants; and if so, how does one quantify them? Do they arise out of changing from a more preferred occupation and life style to a less preferred? Or do they arise out of the move itself--leaving the known for the unknown? The difference is significant, for nothing can be done about the former, but something--such as counseling and information gathering--can be done about the latter. In any case, the available literature is not enlightening on these questions.

Migration and Age

One of the best established and most easily explained associations is that between age and migration from farms to

urban areas. Bowles has published curves relating net outmigration to age for each of the three decades between 1920 and 1950, and the curves are highly consistent. From a low rate for children under five years of age, the typical curve rises to a maximum roughly three times higher in the 15-to-20 year-old group. It then declines steadily to a minimum reached in the 35-to-40-year-old group, after which it slowly rises again through ages 60 to 70.[51] It is clear that the low rates for young children are associated with low rates in the presumed parent age groups--say, 25 to 40 years. It is also clear that the slow rise in the outmigration rate after age 40 is associated with an accumulation of such factors as death of spouse, transfer of farms to grown sons, disability, and retirement.[52] But the outstanding implication of the curves is that by far the greatest rates of outmigration occur in connection with the entry of young people into the labor force between the ages of 15 and 25.

Hathaway and Perkins' social security data show that occupational mobility, both off-farm and in-farm, is inversely associated with age and that migration by off-farm movers is likewise inversely associated with age. Thus, for the period 1957-1963:[53]

Age	Off-farm mobility rate (percent)	In-farm mobility rate (percent)	Percentage of off-farm movers who migrate
Under 25	34.3	22.8	39.2
25-34	18.5	18.2	38.7
35-44	13.5	12.7	31.7
45 and over	7.6	7.6	24.5
Total	14.2	12.4	33.5

It is evident that net off-farm mobility is confined almost entirely to the under-25 age category, which is consistent with the earlier described age pattern of net migration.

Others who have found an inverse association between age and outmigration in different kinds of surveys include Baumgartner and Guither.[54] Gallaway, using social security data, provides a comparison between the net flow of labor into agriculture, 1957-1960, by age category with the relative earnings in 1960 of outmigrants by age category.[55] Thus:

Age	Rate of net flow of labor into agriculture (percent)	Earnings of outmigrants as percent of earnings of all workers
Under 20	-40.6	119.4
20-24	-32.4	80.3
25-29	- 2.2	61.3
30-34	- 2.7	53.3
35-39	- 1.1	46.6
40-44	+ 3.7	47.0
45-49	+ 6.9	42.8
50-54	+11.3	44.7
55-59	+ 2.5	39.5
60-64	+ 8.0	35.7
65 and over	+ 3.8	34.3

Clearly net off-farm mobility is associated with the relative potential earnings of movers into nonfarm occupations. This association is consistent with the fact earlier pointed out that gains in income from off-farm mobility decline with age

and actually become negative above the age of 45.[56]

The decline of income gains with advancing age is only one reason for the inverse association of age and outmigration. As noted earlier, the pecuniary costs of migration increase with age, at least up to a point at which children begin leaving the farm family, and it is likely that psychic costs of migration also increase with age. Also, since remaining working life decreases with age, for given income differentials the present value of income gains declines with age. Gallaway, citing the seniority system in nonagricultural industries as a "major factor," suggests that barriers to nonfarm labor market entry are higher for older outmigrants.[57] The skill gap between agricultural and nonagricultural workers may widen with age, and employers may be reluctant to invest in training of older workers who have a relatively short remaining work life. So there are strong economic reasons, among all possible reasons, for the observed inverse association between age and outmigration from farms.

Migration and Distance to Opportunity

It is well established that migration among the total population--urban as well as rural and farm--is inversely related to distance; that is, the rate of migration declines as the distance to destination increases.[58] The evidence in the literature regarding farm-to-urban migration is not voluminous, but with one significant qualification to be

noted below, this evidence is consistent with that for the population as a whole. To begin with an early example, Bogue and Thompson, using 1940 census data on migration 1935-1940, find the following association between rural-farm outmigration and distance:[59]

Zone of distance	Rate of out-migrant per 1000 of population
Within state	68.0
To continguous state	17.9
Less than 600 miles	3.5
600-1200 miles	6.2
1200-2000 miles	4.1
More than 2000 miles	0.2

It is evident that most migration from the farm is to localities within the same state and that migration of more than 1,200 miles is relatively rare.

Hathaway and Perkins' social security data are more modern (1957-1963) and are broken down by race and age. Unfortunately, the nature of the data makes it impossible to detect migration shorter than from one county to a contiguous county, which Hathaway and Perkins assume is at least a 50-mile move, so the distances in the following table begin at 51 miles. The table shows the percentages of off-farm movers (job changers) in each migration category.[60]

Percent of off-farm movers

		Did not migrate or migrated less than 51 miles	50-151 mi.	151-500 mi.	Over 500 mi.
Race:	Nonblack	67.4	12.7	11.3	8.7
	Black	58.7	13.2	13.8	14.3
Age:	Under 25	60.8	14.4	13.7	11.1
	25-35	61.3	13.5	13.8	11.5
	36-44	68.3	12.4	10.5	8.8
	45 and over	75.5	10.5	8.1	5.9

The data show that most nonblack movers either do not migrate or migrate less than 51 miles and that above 51 miles the rate of migration diminishes with distance. A smaller proportion of black movers do not migrate or migrate less than 51 miles, and their migration rates increase with distance. The explanation appears to be that most blacks on farms are in the South, and many of them migrate to relatively distant northern cities where employment and other discrimination is less prevalent. This explanation is consistent with the finding by Tarver and McLeod that although for the population as a whole, considering only interstate migrants, whites on the average migrate greater distances than nonwhites, the latter moved farther than whites when originating in the southern states of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Texas, and Tennessee in the 1955-1960 period.[61]

The Hathaway-Perkins data also show that migration diminishes with distance in each age group. As indicated earlier, the percentage who migrate decreases with age.

Furthermore, the decline in the migration rate with distance is greater for the older age groups than for the younger--there is a tendency for the young to migrate farther than the old. This tendency is also noted by Abt[62] and is consistent with the fact that the pecuniary costs, and possibly also the psychic costs, of moving increase with age.

At first thought it would seem likely that long-distance migrants would realize larger income gains--the greater costs of moving would have to be matched by greater income incentives. However, Hathaway and Perkins find this not to be the case; they find no relationship between distance migrated and the size of the returns.[63] Possibly this result for the aggregate of migrants is due to the fact the blacks, who tend to move greater distances, realize smaller income gains than whites.[64] The result probably is not due to the fact that younger migrants, who move farther than older migrants, have lower costs; for we have seen that income gains vary inversely with age. In any case, it is a surprising result and inconsistent with the results of a study by Sjaastad of all migrants (not just farm to city) in the periods 1949-1950, which concludes that there is a positive trade-off between distance and earnings differential.[65]

The fact that the rate of off-farm migration varies inversely with distance is probably related to a finding by Hathaway and his several associates from the social security

data that multiple jobholding by farm people is often a first and facilitating step in complete separation from farming.[66] Perkins and Hathaway find that the off-farm mobility rate of multiple jobholders in the 1955-1959 period exceeded that of single jobholders about 16 percentage points for operators and 36 percentage points for laborers and that mobility increases with the number of years of nonfarm experience.[67] Hathaway and Waldo conclude that:

> Multiple jobholding by farm operators is not the stable situation that the aggregate annual data suggest. For many persons, it is a step in changing occupations, so that many who are multiple jobholders in a given year are no longer farm operators after a year or two of nonfarm employment experience. For those who stay in farming for five years, continuous multiple jobholding is a relatively infrequent occurrence. 68

The role of multiple jobholding in facilitating outmigration is also suggested by the finding by Abt that 21.8 percent of the migrants to Greensboro and 25.5 percent of the migrants to Albuquerque had commuted to their destination prior to moving.[69]

Multiple jobholding allows the farm person to gain nonfarm skills and experience, and it helps to reduce the personal uncertainty of a later, more permanent move. But it implies that the first entry into the nonfarm labor market is in a restricted area within commuting distance of the farm. This in turn suggests (1) that migration is more likely to occur

if a nonfarm opportunity is near at hand and (2) that the most likely destination of migration is a nearby urban place. All this is consistent with the observed migration-distance relationship.

The inverse relationship between migration and distance can be rationalized in this way: as distance increases, costs of migration, including psychic costs, increase; the difficulty of acquiring knowledge of nonfarm opportunities increases; and the likelihood of multiple jobholding experience in the destination decreases.

Migration and Information

One of the barriers to farm outmigration is lack of information about nonfarm opportunities. Overcoming this barrier requires expenditures of time, effort, and money. In this sense the information-gathering problem may be regarded as an economic factor in farm outmigration. There is relatively little discussion of this problem in the literature, but the conclusions of several sources are highly consistent.

Smith made a study of the information-gathering process based on a sample of 160 male rural migrants to Indianapolis between 1940 and 1952, the sample including northern whites, southern whites, and blacks. About two thirds of the sample reported having acquired information prior to migrating,

and these are the sources they used:[70]

Sources of information (percent)

	Black	Southern White	Northern White	Total
Relatives and friends	78	88	48	74
Formal media (newspapers, employment service)	5	7	15	9
Rumors and misc.	17	5	37	17
TOTAL	100	100	100	100

It is evident that the chief source of information was relatives and friends, particularly for the blacks and southern whites. Rumors and miscellaneous sources come next, and formal media are last. The author notes that only three migrants reported having received information from the U.S. Employment Service.[71]

As might be expected from the dominance of informal sources of information, the specificity of information was rather low.[72] Thus:

Specificity of information (percent)

	Black	Southern White	Northern White	Total
Very specific	7	9	43	18
Fairly specific	15	33	11	20
Not specific	47	39	21	37
No information	24	17	14	18
Not looking or no report	7	2	11	7
TOTAL	100	100	100	100

This indicates that most rural migrants into Indianapolis in the period, particularly blacks and southern whites, came with information of rather poor quality. The conclusion with reference to blacks is corroborated by the results of a

study by Lurie and Rayack of racial differences in the job search by migrants to Middletown, Connecticut, in the early 1960s.[73]

Abt also found that rural outmigrants rely heavily on informal sources of information about jobs at the destination, reporting that 89 percent of the migrants surveyed received information from their own experience or from friends and relatives.[74] Blacks reported somewhat greater reliance on public sources of information than Anglos and Spanish-Americans. Migrants with high school or more education tended to use a variety of sources. Those using personal sources tended to realize the least gains in income: those using public information, the greatest gains. The heavy reliance on friends and relatives for information is consistent with the fact that the chief reason given for selecting a particular destination is the presence of friends and relatives there.[75]

The Tracor study is not specific about information gathering per se, but it does indicate something of the quality of information available to the migrants surveyed before they moved. Only 8 percent of the black males, 35 percent of the Anglos, and 20 percent of the Mexican Americans migrating to Chicago had jobs waiting for them. Only 17 percent of the black males, 63 percent of the Anglos, and 43 percent of the Mexican Americans had job leads before moving. Not surprisingly, then, only 42 percent of the black males had jobs within a week, as compared with 75 percent for Anglos and Mexican

Americans.[76]

Although these studies do not cover a great number of migrants, their consistency strongly suggests that successful migration from agriculture is deterred by inadequacy of formal information sources or by failure of migrants to use those available to them, perhaps because of ignorance.

Migration and Income Equalization

Given that farm outmigration occurs largely in response to an income differential between farm and nonfarm workers of comparable earning capacity and assuming that it is the lowest earners in agriculture who have the strongest incentive to move out, outmigration on the scale experienced in recent decades would be expected (1) reduce the gap between farm and nonfarm labor earnings and (2) to reduce inequality of labor earnings within agriculture.

The first expectation has not been realized. Hathaway points out that income per worker in agriculture from farming was 44 percent of the wage of the average factory worker in 1925-1929, a figure that increased to only 45 percent in 1954-1958.[77] Even when adjusted for age, sex, education, and skill factors, according to Bishop, the return to labor services in agriculture remains 30 to 40 percent less than the return to comparable labor in nonfarm occupations, despite the massive outmigration that has occurred since 1940.[78]

Allowing for farmers' income from nonfarm sources does not change the conclusion; per capita disposable income in agriculture was about 57 percent of the nonfarm figure in 1960-1964, virtually unchanged since the end of World War II.[79]

These facts give rise to two alternative hypotheses: (1) the earning capacity of farm labor is substantially less than that of urban labor, or (2) continuing impediments to farm outmigration keep the reallocation of labor from being sufficient to erase income differences. Although they give great emphasis to the impediment of nonfarm unemployment, Hathaway and Perkins lean toward the former hypothesis. The rates of mobility they observe, together with the small income gains and frequent losses associated with outmobility, suggest to them that there is no serious misallocation of labor between farm and nonfarm occupations and that the problem is not to increase mobility but to raise the earning capacity of farm labor so that the retention rate of outmovers to the nonfarm sector will be increased.[80] Fuller also believes that the basic problem is the underproductivity of workers in agriculture.[81] Blau and Duncan come to similar conclusions, attributing the relatively low off-farm earning capacity of migrants to initial socioeconomic status and poor education.[82] On the other hand, Johnson estimates that the earning capacity of farm labor is

no more than 10 percent less than that of comparable nonfarm labor. Ths he does by comparing the income implied by the occupational distribution of migrants, corrected for the effects of age and sex, with that of nonmigrant urban workers.[83] Johnson's estimate is supported by Wertheimer's finding that five years after moving, rural outmigrants have earnings equal to those of urban nonmovers of the same education, age, race, and sex, although "same education" may be the key qualification.[84] Bishop appears to agree with Johnson and consequently attributes the continuing income gap to impediments to outmigration, chiefly nonfarm unemployment.[85]

The evidence is also mixed in regard to the expectation that farm outmigration would reduce income inequality within agriculture. On the one hand, census data, as reported by Hathaway, indicate that generally outmigration is higher in lower-income farming areas.[86] Thus:

	Rate of net migration	
	1930-1940	1940-1950
Medium-high-income farming areas	-13.2	-28.0
Low-income farming areas	-12.5	-33.8
Moderately low income	-8.3	-27.8
Substantially low income	-13.9	-34.9
Seriously low income	-14.2	-36.9
TOTAL	-12.7	-30.9

In both decades moderately low income farming areas had a lower rate of outmigration than medium-high-income farming areas. Comparable data for the 1950-1960 decade are not available, but we do know that in that decade outmigration

was inversely associated with median family incomes by counties.[87] Diehl also reports a negative relationship between farm income and outmigration, referring to the Southeast in 1950-1960.[88]

On the other hand, Hathaway and Perkins find a positive association between off-farm occupational mobility and farm income. Thus, for the 1957-1963 period:[89]

	Gross off-farm mobility rate
County median family income	
Under $3,500	10.3
$ 3,500 and over	15.1
Percent of farms with sales of $10,000 or more	
0.0 - 9.9	12.3
10.0 - 29.9	13.8
30.0 and over	14.8

The commercial farm relationship may be due to the fact that commercial farming is associated with wage workers in agriculture, who are especially mobile.

Hathaway and Perkins also relate off-farm mobility and migration to total earnings while farm employed.[90]

Total earnings while farm employed	Gross off-farm mobility rate	Percentage of movers who migrate
Under $500	19.3	40.1
$500-999	15.3	39.1
1000-1999	11.9	35.0
2000-2999	13.9	30.9
3000-3999	13.7	26.9
4000-4999	14.0	24.6
5000-7499	16.1	21.9
Over 7499	8.6	18.0
TOTAL	14.2	33.5

There is no consistent relationship between the mobility rate and farm earnings, but the migration rate is negatively associated with farm earnings. It appears that although

migration per se tends to equalize incomes within agriculture, the broader and more significant occupational mobility does not.[91]

Summary of Findings in the Literature

In general, the findings in the literature support the hypotheses stated above.

1. Potential outmigrants are generally aware that incomes can be increased by migration, and for most outmigrants potential gain in income is the chief reason for migration. However, other reasons, such as family considerations and the social environment, are significant. Presumably, there are also noneconomic reasons why poor farm people do not migrate, so there can be no presumption that migration will precisely eliminate the farm-nonfarm income gap.

2. The potential gains from outmigration, when projected remaining productive life and discounted to the present, are large enough to outweigh the pecuniary costs of migration for the typical mover. However, many outmigrants suffer income reductions, which largely accounts for the substantial re rn flow of migrants. Moreover, the pecuniary plus psychic costs of migration may outweigh the benefits for many potential migrants.

3. Outmigration from agriculture is significantly deterred by a rise in the nonfarm unemployment rate. Nonfarm employment opportunities dominate relative income in explaining net outmigration. Students of the farm income

problem agree that low levels of nonfarm unemployment are essential to an equilibrating rate of farm outmigration.

4. With some qualification regarding the extremes of age, net outmigration varies inversely with age, most of it occurring in association with first entry into the labor force. There are strong economic reasons for the observed relationship.

5. Migration varies inversely with distance to opportunity, which also has a substantial economic basis. The relationship is connected with multiple jobholding and the problem of acquiring information regarding nonfarm opportunity. Multiple jobholding, which is commonly associated with later separation from agriculture, depends upon the existence of nonfarm opportunity within commuting distance of the farm. Accessibility also facilitates personal information gathering. Apparently, lack of good information about nonfarm opportunities is a serious barrier to successful outmigration from agriculture. Lacking firsthand experience in an urban job market, potential outmigrants rely heavily on informal sources of information, chiefly family and friends, and the information they get is not highly specific.

6. Despite a massive net outmigration from agriculture since 1940, the relative labor income of farm workers has not significantly improved; nor has inequality within agriculture been substantially reduced. It is not clear whether the first failure is due to a basic low productivity of farm

people in nonfarm jobs or to continuing impediments to sufficient outmigration. As for the second failure, for unknown reasons outmigration--off-farm occupational mobility--has not been sufficiently selective of the relatively poor in agriculture.

Some Policy Implications

It would appear that there are two general ways of attacking the persistent low-income problem in American agriculture: (1) to facilitate successful outmigration in association with continued rapid technological progress in agriculture, so that both those who move and those who remain may realize higher incomes, and (2) to make direct transfer payments to the farm poor for whom successful outmigration is not a feasible alternative. If applicable, the first is preferable because it is a logical accompaniment to general economic growth and improvements in all incomes and because it attempts a permanent solution. Nonetheless, there is a supporting role for the second to play because in many instances age, disability, or other special circumstance makes a successful move to nonfarm work unfeasible.

To facilitate successful outmigration, the first desideratum is to maintain full employment in the nonfarm economy. Historically speaking, this has been accomplished fairly well since the end of World War II, but diligence will be

required to maintain it as the labor force grows at a faster rate in the 1970s; and the record suggests that macroeconomic employment policy alone will not be sufficient to achieve the desired rate of outmigration from agriculture. Other measures will be essential.

One highly desirable measure suggested by the literature is to provide a better information system to guide potential outmigrants. Noting that the present public employment services are basically local in scope and outlook, Johnson proposes a national labor extension service that would disseminate information about job vacancies, locations, wage rates, training required, nature of work, how to apply, and where to get additional information. To reduce mistakes and increase the permanence of relocations, he also proposes a program of job counseling and assistance in placement and locating housing.[92]

Since so many outmigrants suffer losses and return to agriculture, it is implied that many actual and potential outmigrants are poorly prepared in education and training for nonfarm work. It is believed that a greater amount of successful outmigration would occur if the quantity and quality of rural education were raised.[93] Some redirection of rural education is called for, as suggested by the fact noted by Bishop that of about 650,000 rural farm males in high school in 1960, 464,000 were enrolled in vocational

agricultural courses.[94] For adult farm people, out of school but still young enough to be potentially mobile, what is required is a program of assistance for and encouragement of retraining for the development of marketable skills in the nonfarm sector.

As noted earlier, several contributors to the literature seem to regard the financial cost of migrating and relocating in an urban area as a negligible barrier. Our own assessment of the cost problem leads to a different conclusion. For the very poor, it seems, the cost of successful outmigration may often be prohibitive. Put another way, an outmigration attempt may often be unsuccessful because the migrant has insufficient funds to invest in job search and transportation of his family and possessions to the optimum nonfarm job location. If this view is correct, a program of financial assistance to poor movers may well be worth while.

Considerations of moving cost, including psychic cost, information gathering, and opportunities for multiple jobholding all point to the benefits of having nonfarm employment opportunities widely dispersed throughout the country. This naturally leads to the suggestion that industrial dispersion be subsidized or otherwise encouraged as a matter of policy aimed at alleviating the farm income problem.[95] There are objections, however. Hansen has expressed doubts about the feasibility of bringing job opportunities in the

required numbers to rural areas.[96] It may be observed also that a program of locating industry artificially would involve an indefinite subsidy (and social cost reflecting nonoptimal location), while subsidizing successful moves by farm people has a one-time, self-liquidating cost. Of course, if industrial dispersion occurs spontaneously or is encouraged on some other justifying grounds (e.g., national defense), its contribution to alleviating the farm income problem is all to the good.

Facilitating successful outmigration in various ways may not be enough to eliminate the gap between the return to labor in agriculture and the return to comparable nonfarm work. Even if it should do so on average, there will remain in agriculture many who, due to age or some type of disability, will be unable to earn a socially acceptable income. If these cases are to be dealt with, they must be treated directly by means of transfer payments.

Limitations of the Literature and Unresolved Issues

The literature covered in the foregoing survey reflects a variety of data sources, sample sizes, time periods, and techniques of analysis. In one respect this is good, for it means that some hypotheses regarding farm outmigration have been subjected to a variety of tests, and to the extent that the results agree, confidence in those results increases. In another respect, it is not good, for it means that not all hypotheses have been subjected to uniform or consistent

tests, and we cannot be sure of the sources of the differences in results obtained. The surveyor is confronted with the task of trying to construct a coherent picture from fragments that were never intended to fit together precisely.

It seems likely that the advent of the social security continuous-work-history sample reflecting farm coverage represents a watershed in mobility research. This is a unique body of data that makes it possible for the first time to follow individuals in year-to-year movements into and out of agriculture. Moreover, it makes possible the study of occupational mobility, which is an economically more meaningful concept than residential mobility. The skillful analysis of these data by Hathaway, Perkins, Waldo, and Gallaway has greatly enlightened us. Yet there are important limitations of the data and, hence, of the analysis. First, thus far the data used in the literature span a relatively short period of time, 1955 to 1963. Second, since the data reflect social security coverage, those continuously too poor to be eligible for coverage are necessarily excluded from the sample. Third, it is possible that a significant portion of the apparent movement into and out of agriculture reflects movement into and out of eligibility for coverage. Fourth, the data fail to reflect the movement that is perhaps most significant--the movement of young unpaid family workers off the farm to take first covered jobs in the nonfarm

sector. Only the first limitation, that of time span, can effectively be remedied.

Thus for some purposes census and special survey data must be relied on, and these have their own limitations. Census data are infrequently gathered, and the migration measures derived from them reflect change in residence rather than occupation and may be distorted by intercensal changes in definition of "farm." Special survey data usually have the weakness of small samples and short time spans.

Despite the limitations of the data available, several conclusions in the literature seem well established. A massive outmigration from agriculture has occurred in recent decades, and most of the migrants have been motivated by the prospect of raising their incomes. In fact, the typical migrant does raise his income above that possible in agriculture, although a distressing proportion do not, and many who do not return to farming. Outmigration is deterred by nonfarm unemployment and is inversely related to age and distance to nonfarm opportunity. Less well established are the propositions that costs of outmigration are generally less than benefits, that migrants' information-gathering procedures are inefficient, and that outmigration tends to be selective of the relatively poor in agriculture.

There are several hiatuses in our knowledge and unresolved issues in relation to farm outmigration that should

occupy future researchers.

1. The costs of outmigration are not well documented. Whether psychic costs are significant is unknown, as is how the sum of psychic and pecuniary costs behaves with respect to age, asset ownership, distance migrated, and other characteristics of outmigrants. More needs to be known about costs to understand observed patterns of migration and to evalute proposed public programs to facilitate outmigration of a desirable sort.

2. Relatively little is known about the process by which potential outmigrants gather and evaluate information about nonfarm employment opportunities and the quality of urban life other than that they rely heavily on friends and relatives. Are informal sources of information the most reliable? Why do migrants not use public employment sources more heavily? Again we need to know in order to design a more efficient information system.

3. Very little is known about return migrants and the reasons for their behavior. Return migration is a surprisingly high proportion of gross outmigration each year. If it could be reduced, great social cost could be averted and net outmigration possibly increased. But to reduce it requires better understanding of why it occurs. What are the respective roles of income losses, homesickness, and dislike of urban life, for instance?

4. The role of education in facilitating outmigration is little understood. Available evidence suggests that outmigration tends to be selective of the better educated[97] or possibly selective of the extremes of education,[98] although a part of this relationship stems from the fact that the young are better educated than the old, and, for reasons already discussed, outmigration is selective of the young. But what does the remaining relationship mean? Does it mean that the same personal qualities that motivate farm-bred people to pursue education motivate them to better themselves through outmigration? Does it mean that additional education is a deliberate investment made to secure nonfarm skills with a view to later outmigration? Or does it simply mean that those who happen to be better educated are more successful in finding nonfarm jobs that raise their income?

5. A major unresolved issue is whether potential farm outmigrants have an earning capacity approximately equal to that of urban workers who are in some sense comparable. If they do, then the persistent gap between farm and nonfarm income reflects a misallocation of labor, and efforts should be made to improve the earning capacity of farm people and let that lead to whatever increased outmigration it will.

6. One issue not touched upon in this survey is that of the broader social costs and benefits of farm outmigration. Little concern for this issue is evidenced in the literature,[99] but it has important implications for policy. For example, if outmigration has significant social costs not reflected in private costs (e.g., decay of rural public services such as education), then outmigration may already be too great for society's good, and some approach to alleviating relative poverty in agriculture other than facilitating greater outmigration should be sought.

In any case, outmigration on the scale of recent decades is a future impossibility due to the now-shrunken size of the American farm population. Put another way, a given growth of nonfarm employment opportunity implies now a higher rate of induced outmigration, which should involve a faster adjustment in the relative incomes of farm workers. If the total economy's growth in the 1970s is similar to that of the later 1960s, by the end of the decade the remaining poverty in agriculture may be the kind best alleviated with transfer payments.

Chapter III

Farm Size and the Displacement of Farm Families in Southern Agriculture, 1950 to 1969

by Virgil L. Christian, Jr., and Adamantios Pepelasis *

Extent of Displacement

Between 1950 and the present technological and other structural changes in southern agriculture led to labor displacement from this sector and to an unparalleled labor outflow from the region. Labor displacement has not, however, proceeded at an even rate for blacks and whites. For example, in the period of heaviest displacement between 1950 and 1969, black farm labor declined from 767,000 in 1950 to 158,000, or by 609,000, while white farm labor declined from 2,741,000 to 1,192,000 over the same period. Thus by 1969 only one fifth of blacks were still in southern agriculture as compared with their employment in 1950, while more than two fifths of the 1950 number of whites were employed in agriculture. As a consequence, southern black farm operators had fallen from 22.9 percent of total southern operators in 1950 to 11.7 percent in 1969. Tables 1 and 2 show both the steady decline in southern agricultural employment and the more rapid rate of this trend among black farm workers.

Evidently, at the level of aggregation of these tables, a great deal is concealed about changes in employment by state,

tenure, farm size, or crop. Yet, the microvariations of employment changes do not alter the overall picture of a different rate of labor displacement for the two race groups. Indeed, southern agriculture is a classic example of discrimination if one accepts the notion that discrimination is present whenever race is a factor in predicting the opportunities open to an individual, or in estimating the probability of success of an individual's economic activity.[1] However, this definition is too broad to be useful in proposing policy remedies. To explain differences in the rates of displacement of black and white labor from southern agriculture one must account for many factors that have operated within a larger setting of the regional economy and its institutional framework. The size of farm, the availability of financial resources, access to credit, concentration in crops for the output of which labor requirements have been falling faster than in other crops, varying degrees of adaptability to changing technology, unequal treatment by the U.S. Department of Agriculture (U.S.D.A.) programs, land-tenure systems that affect different classes of farm operators differently are examples of specific factors that must have affected labor displacement of black and white rural labor. To argue that discrimination, overt and institutionalized, or discrete and indirect, operates under various disguises through these factors offers no

analytical insights. One factor, therefore, the size of farm, is isolated here, and how it has affected the black farmer and what its impact has been on the rate of displacement on black farm labor is examined.

Technological Change and Economies of Scale

There is a vast literature on the economies of scale in agriculture and the size of farm. But there is no consensus, largely because there is an analytical crudity about the arguments used. Many studies have been made that assert that farms of larger size produce higher incomes for their operators. That is, on the basis of empirical evidence, larger farms bring higher returns to labor and to the managerial contributions of the farm operators. These higher returns have been presented as being synonymous with greater efficiency, which leads to the argument that larger farms are more efficient than smaller farms. This might be true, but only if efficiency is measured in terms of the operator's income and labor is the most scarce factor of production from the social viewpoint. But in situations in which the marginal cost of labor is close to zero and all other factors of production are scarce, efficiency of fewer units of different sizes must be measured in terms of returns to the limiting factors of production and not to the farm operator's labor.[2] And a number of studies suggest that a positive relationship between size and income productivity per unit of land may be

inversely related to farm size. But, unless more careful empirical research is done and unless a more rigorous analytical framework is constructed within which such an investigation is carried out, one should distinguish between a static and dynamic relationship.

Furthermore, historically some of the arguments relating to size and scale are rationalizations for political or distributive goals lying behind discussions of land reform and tenure systems. But experience is not uniform. Consider the case of Japan between the 1860s and the 1920s. Japan raised agricultural productivity without reducing its rural labor force and without increasing the size of its small farms. The transformation of productivity occurred without the adoption of new capital--intensive techniques of production on large scale. The rapid growth of agricultural output and productivity came out of the traditional small family farm and the traditional patterns of agricultural organization and was a paramount agent for the growth of the Japanese economy during the period.[3] Thus, the assertion that there is a necessary positive relationship between size, economies of scale, and productivity may be based on arguments that are founded on questionable assumptions, or which do not make the assumptions explicit. The proposition that a farm of larger size is more productive is valid only if at least one of two conditions is assumed: one, that it can compete more effec-

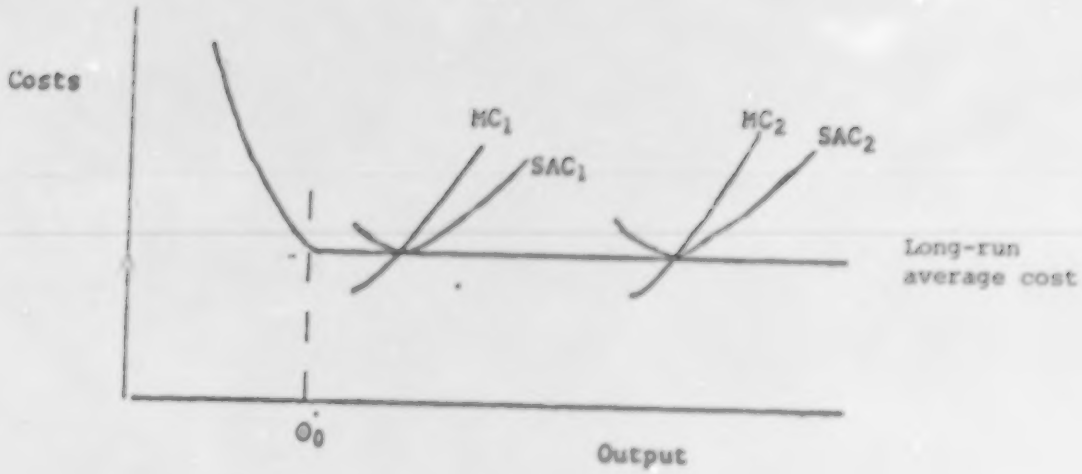
tively for capital, management, and specialized labor (i.e., it can compete more effectively for the necessary factors of production, using more capital, and more efficient management) Or two, that there occur economies of large scale.

Measuring the presence of economies of scale in southern agriculture is a treacherous task raising as many questions as it purports to answer. In the first place, data from real farm operation reflect costs incurred from input combinations actually used rather than costs that were generated by inputs optimally combined as required by economic theory.[4] Also, statistical measures require debatable specifications of agricultural production functions. But regardless of scale, there is clearly a minimum farm size required to sustain a farm family. One way to view the matter is in terms of indivisibilities: the farm operators and his family are a fixed quantum of labor input, with additional hired labor, land, and farm equipment considered as variable inputs added to the fixed factor. It is obvious then that minimal amounts of land and equipment are needed to provide bare subsistence to the family unit and much more to make the farm a competitive viable economic entity.

One of the main broad approaches for studying farm size is that of constructing a synthetic or model farm using economic-engineering data to estimate unit production costs for different farm size levels. This kind of study measures

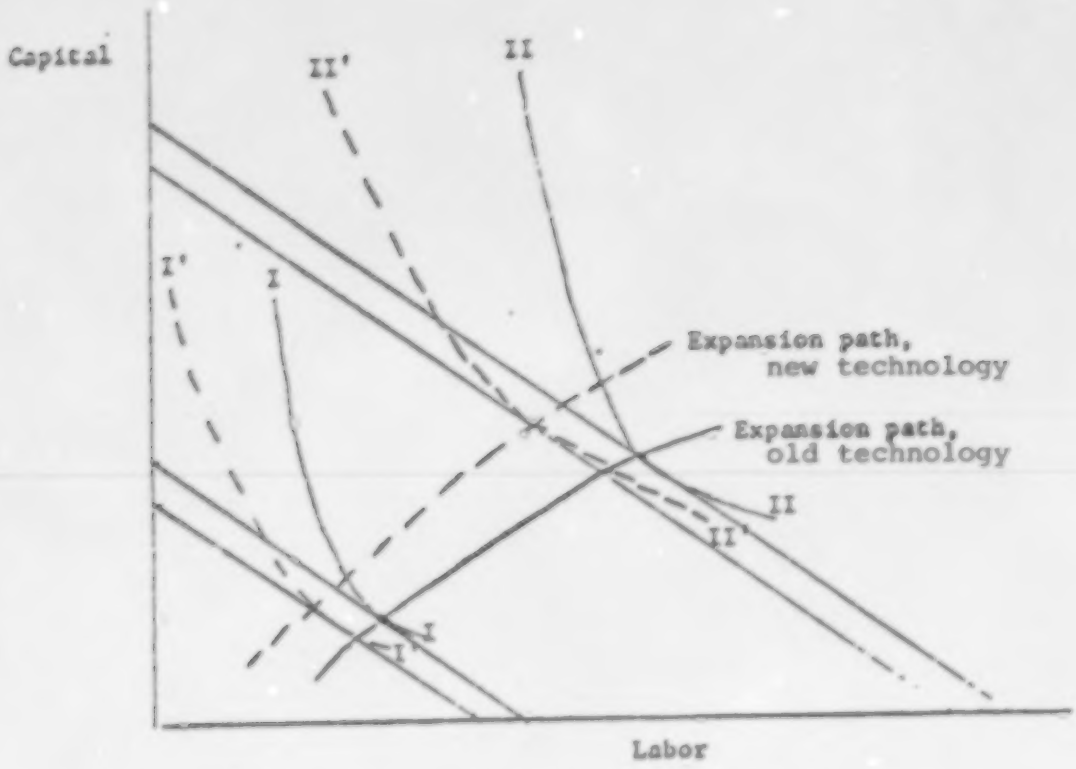
"within-plant economies." The U.S.D.A. Economic Research Service conducted a long and coordinated series of such studies. The smallest of these model synthetic farms, without exception, begins at sizes larger than those available to 90 percent of black operators; this is just another indication that most black holdings are too small to be self-sustaining in any other than a submarginal manner.

Actually, the problem for the family farm may have been more one of rapid changes in technology than of economies of scale, which are premised on fixed technology. The changes in technology all operated in the direction of making the production process more capital intensive, leading to a higher capital-to-output ratio at all levels of output, as illustrated in these diagrams:



Output associated with minimum size of economically viable farm

It may be true that unit costs drop drastically at low levels of output, indicating economies of scale up to the output O_0, i.e., the output associated with smallest-size viable farm. But what goes on before the output O_0 is basically irrelevant, since such small farms are not economically viable. This model considers that increases in technology push O_0 to the right and that this is more important in black displacement than possible economies of scale beyond O_0.

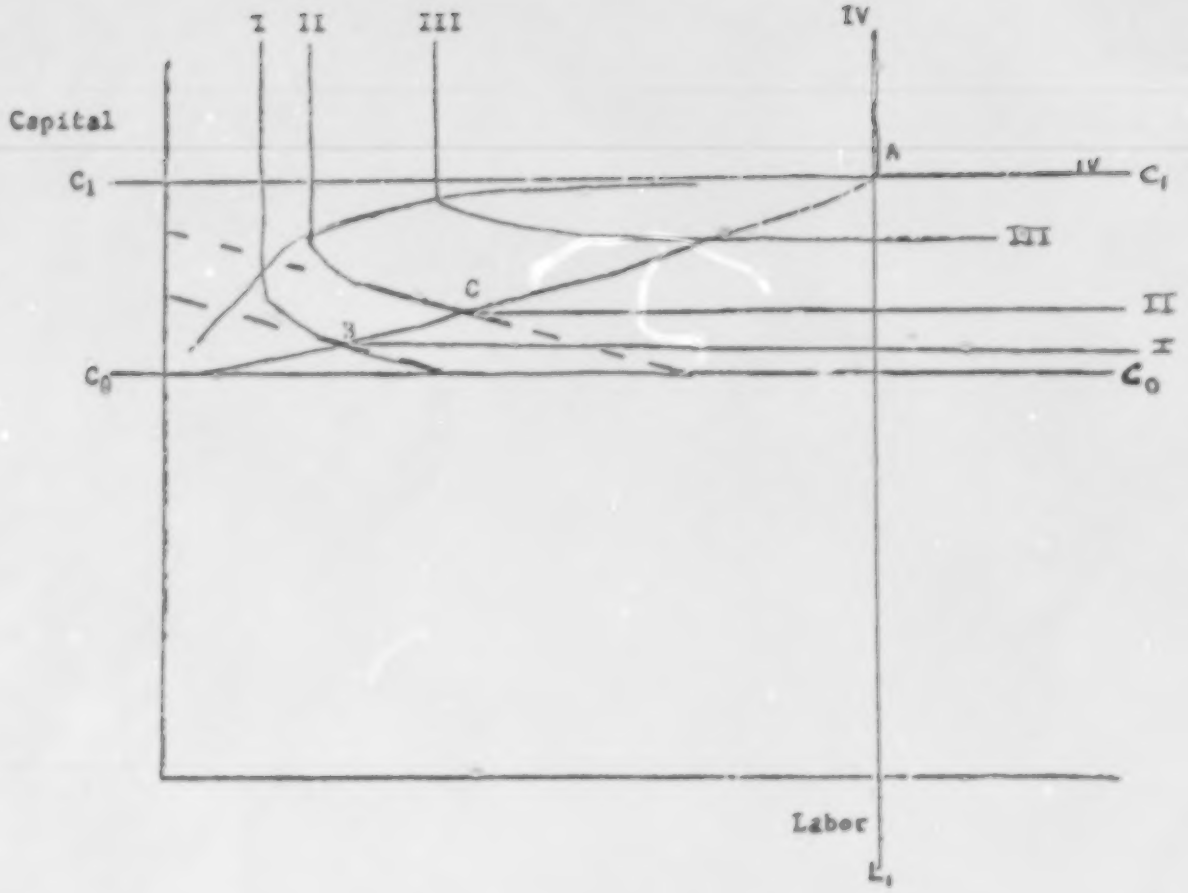


I I and II II are isoquants in old technology.
I'I' and II'II' are isoquants in new technology.

If it is legitimate to plot "capital" on the same vertical axis, which implies that units of capital can be measured in the same way and priced the same way (parallel isocost lines for the two technologies), it is clear that the expansion path will lie closer to the capital axis for the "new," more capital-intensive technology. This is true because at any fixed amount of capital $\frac{K}{L}$ will be less on the primed isoquants, so that you will reach $\frac{K}{L}$ = slope of isocost line at a point on them above those on primed isoquants.

The expansion path of the firm would have swung closer and closer to the capital axis as technology improved. Optimal operation in the short run required that land and capital should be applied to the available family labor on each family farm in amounts sufficient to carry into the rational stage of production, that is, to reach levels of output such that average variable cost is rising. As technology improved, more and more capital and land were needed to be combined with the family labor before reaching rational combinations of the inputs, pushing the minimum size for an economically viable farm steadily upward. This conclusion is independent of economies of scale; if such economies exist, there are additional pressures for increasing size on beyond the minimum. But the economically feasible minimum size would have increased even if there were constant or decreasing returns to scale, given that the operator's family unit on each farm was an indivisible minimum labor input.

What that minimum is for a given state of technology is an empirical question, requiring the attention of the agricultural economist and the agricultural engineer. The fact that it does exist is what is interesting for this discussion. The argument may be summarized with the use of this diagram:


I
II
III
IV
Capital
C_1
A
IV
C_1
III
C
II
B
I
C_0
C_0
Labor
L_1

C_0 represents smallest indivisible unit of technologically efficient capital in the "new" technology.

IV represents maximum possible output, "cornered" to show zero MP of capital for amounts greater than C_1, and for labor for amounts greater than L_1.

1. Marginal product of labor is zero to the right of bottom ridge line; marginal product of capital is zero above upper ridge line.

2. Marginal product of capital is zero for amounts greater than C_1 on a farm of this size regardless of the amount of labor; likewise, marginal product of labor is zero for amounts greater than L_1 regardless of amount of capital.

3. If the numerical value of the slope of the isoquant is steeper than the slope of the isocost lines between the ridge lines, then the points of tangency will lie along the lower ridge line (as in B and C). Then the lower ridge line will also be the expansion path. This would happen when labor is much cheaper than capital, leading to a gently sloped isocost line. But this is really unimportant. For all labor capital combinations between the ridge lines will lead to high unit costs if capital costs are high for capital lying between C_0 and C_1, implying that the exact position of the expansion path is inconsequential.

4. Minimum isocost would be that associated with C_0, the smallest indivisible unit of technologically efficient capital, and O labor. Other isocosts would lie above this. They are cut off at C_0 in the sketch since, by assumption, amounts of capital less than C_0 cannot be bought.

5. If the price of C_0 (or the annual capital costs associated with C_0) is large, then all unit costs will be large. It is not at all unlikely that the "old" technology, with less sophisticated capital- and labor-intensive methods, would yield lower unit costs on a farm of this size.

6. If available family labor is greater than L_1, that labor immediately becomes surplus under the new technology. And if larger farms, using the new technology, achieve lower unit costs, there is trouble for the small farm, since both labor intensive methods under the "old" technology or more capital-intensive methods under the "new," leave it at a cost disadvantage.

The argument is that there has been a movement toward more capital-intensive methods and this is reflected in the fact that the expansion path has come closer to the capital axis of the present point of time. How much of such a shift is caused by factor price changes and how much is due to changes in capital intensity of the production factor is an extremely relevant question. If changes in factor intensity have been more important than changes in economies of scale in southern agriculture, care should be taken in sorting out the multiple effects associated with the technological change and relative factor inputs over time. But clearly, in the context of this discussion, the point of shifts in the relative prices of labor and capital cannot be exaggerated when technological change is involved. For, if new capital is far more efficient, what is the basis of a price-

shift argument? "Price of capital" is an analytically unuseful term if in one instance the price relates to a hoe, and at another to a tractor.

A more realistic approximation of the situation might be determined in southern agriculture by considering both the labor embodied in the family unit and the amount of land available to it as fixed over a single growing season. Land tenure arrangements, even for nonowners, can hardly be modified rapidly enough to vary the amount of land that can be used by the family in a single year. Thus the labor potential in the operator's family and the land under his control become fixed minima for these two factors, and the costs associated with them become fixed costs. The operator's short-run decision is determining optimal quantities of other inputs (perhaps including hired labor) to combine with them. However, for efficient operation, a critical point may have already been passed. Improvements in production methods since the last crop year may mean that the quantities of labor and land fixed in the input structure are incompatible with minimum production costs attainable by the new methods. If labor is the relatively short factor, there is no difficulty, since more can be hired, but this is not typically the case; for small farms, it is more likely that the amount of land will be too small to accomodate optimal factor combinations. In this circumstance, with zero marginal cost of labor use up to the amount of family labor available, the sensible way to produce in the current season is through labor-intensive methods. Family labor and land are fixed inputs, and short-

run costs are independent of them, so the decision to raise a crop in the coming season depends entirely upon whether the crop yield will be sufficient to cover variable costs and contribute some surplus to the already committed land and family labor.

Clearly, it will be impossible for the operator of the small farm to repeat this short-run solution indefinitely if more capital-intensive methods yield lower unit costs. Agricultural prices must eventually reflect the lower costs of the more efficient methods, and the small farm will sustain losses until some of its fixed resources, such as family labor, are reduced or eliminated. The minimum-size farm that could avoid these losses would be one in which there is sufficient acreage to permit the smallest indivisible units of technologically efficient capital to be combined with the family labor to produce at unit costs not appreciably greater than those of the most efficient farms.

It could be argued that the presence of significant economies of scale in agricultural production would mean that the minimum-size farm needed to produce at unit costs approximating those of the most efficient farms would be large. And the argument, taken on its own terms, would be correct by definition. If the state of technology remained fixed for several years, farms that did not move in the direction of optimal size would operate at a cost disadvantage, and finally at a loss, assuming institutional factors did not divorce commodity prices from production costs. But a

key element in the scale concept is the notion of fixed technology: Factors at all levels are combined optimally, given the state of technology, in deriving the envelope cost curve that establishes the existence of economies of scale. Hence the scale question may not be the central one in a situation dominated by rapid technological change, unless, perchance, all the changes operate in the direction of favoring large farms. Changes in technology in southern agriculture have undoubtedly led to more capital-intensive methods, but that does not imply that they have also induced economies of scale. The first requires only that a farm be large enough to combine optimally with the smallest units of technologically efficient capital; the second deals with unit cost for factor combinations at higher levels of output. Clearly it is possible for an improvement in technology to increase the minimum size of an economically viable farm even though it does not lead to economies of scale.

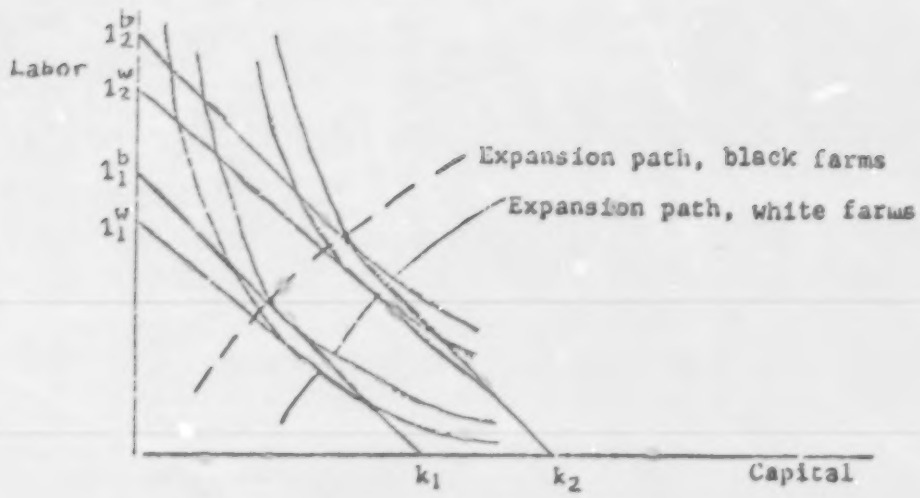
This point has practical implications. If the technological changes in southern agriculture have induced sizeable economies of scale, then the position of the small farmer--and this includes a high proportion of black farmers--is fundamentally weak. But if the changes have simply made agricultural production more capital intensive, then saving the small farmer who has the minimum amount of land required will require providing him with the financial resources to acquire the needed capital. To say that small farmers have been rapidly displaced since agricultural production has

become more capital intensive is not to say that the changes in production methods have created economies of scale that make the small farmer's position untenable.

There are at least two ways in which discrimination could affect the movement of black farm operators. One is credit-market discrimination and the other is nonfarm labor-market discrimination. These factors may operate in the opposite direction.

Discrimination may affect the displacement of black farm owners through means other than their being forced to work small inefficient farms:

1. To the extent to which labor market discrimination may lower the wages the black can earn working locally in nonagricultural employment and discrimination in goods markets may raise the cost of capital equipment to the black farmer, the price of capital is raised and the wage he must earn (his opportunity cost) is lowered. This implies that optimal input proportions are different for black farms, that is, more labor intensive and less capital intensive, as shown in this diagram:



The expansion path will be different depending on whether a farm uses black or white labor. The isocost lines for black and for white labor are not the same, since the price of black labor is less. In the diagram, the w superscripts indicate "white", and b indicate "black". Each point on the capital axis, as k_1, generates two isocost lines, with the vertical intercept being greater for black labor, showing that a greater amount of black labor can be bought with the expenditure defined by the isocost line. The expansion path if the farm uses black labor would then be more labor intensive. That is, the slope of the capital--black-labor isocost lines would be steeper than those of the capital--white-labor isocost lines. The point of tangency on each isoquant for the black labor-capital, black isocost line would be to the left of that for the corresponding white-capital white isocost line, since the point of tangency

between the steeper line would like to the left on a given isoquant. This also implies that of two identical farms producing the same output a given increment in capital would displace more labor on the farm using black labor. The black farm could still be "efficient", though. This would argue that either farm size would have less effect on black-farm-operator displacement or farm size was not significant. Studies on the supply of labor lend support to this view (though they were done for nonagricultural workers).

2. On the other hand, were the black farm operator able to obtain nonagricultural employment (possibly by migrating) in an industry covered by the minimum wage, then--again due to the labor-market discrimination--the potential gain to him would be higher relative to the potential gain to a white counterpart. This would argue for a greater displacement of black farm workers. Such a theory is consistent with migration studies.

Technological Change and Displacement of Farm Labor

As stated previously, labor-intensive methods may provide the operator with a reasonable alternative over the period of a few growing seasons, but they cannot be sustained

indefinitely if commodity prices, reflecting lower costs on more efficient farms, will not provide a subsistence income to the family unit. A usual alternative has been for one or more members of the family to seek employment off the farm, with their farm work taken over by machinery, provided that the operator had the financial resources to acquire it. The family gained if the yearly capital costs were more than offset by the off-the-farm income of those members who found nonagricultural employment. But the acquisition of capital often constituted an irreversible step insofar as the introduction of machine methods reduced the marginal product in agriculture of several family members to zero. This was particularly true if the farm was close to the minimum size that would permit the economic use of capital-intensive methods. The conversion thus forced some members to seek, and keep, work off the farm if they wished to make a contribution to family welfare. That such a pattern was quite common is shown by the Census of Agriculture for the years 1954, 1959, 1964, and 1969, which indicate substantial and steadily increasing proportions of labor time of farm families are spent in nonagricultural employment. They also show a shorter work week in agriculture for family workers, with the result that the decline in the number of full-time equivalents (man-years) in agriculture was greater than the numerical decline in farm family labor. Family workers declined from 3,340,000 in 1951 to 2,091,000 in 1960 and to 1,350,000 in 1969, with indexes of 100.0, 62.6, and 40.4, respectively, while full-time equivalents

declined from 2,315,000 in 1951 to 1,146,000 in 1960 and to 663,000 in 1969, with indexes of 100.0, 49.5, and 28.6 (see table 3). Therefore, one may infer that many members of families that survived on the farm were just as completely displaced from agriculture as members of families that actually left the farm, and contributed in precisely the same way to the rising pool of surplus agricultural labor in the region.

Nevertheless, it is clear that much of the displacement came from farm families, or members of farm families, who abandoned agriculture entirely. For example, the decline of 60 percent in the family labor force between 1951 and 1969 accounts for most of the 71 percent decline in man-years worked by family labor. A large number of farms were too small to sustain a shift to capital-intensive methods, that is, land was scarce relative to the smallest indivisible units of capital. Another large group had operators who were financially unable to acquire the machinery needed for newer low-cost methods. Still another group, with tenant operators, disappeared into larger units by decision of the landowner, who was able, by refusing to renew tenant agreements, to displace family labor and replace it with more capital-intensive methods. Operators and family labor on farms as the first group were, in a sense, doomed by technology, in that nothing could be done that would allow them to achieve optimal factor combinations, even in the long run. Inevitably, and inexorably they ceased to exist as separate entities and were combined into larger units. However, a

fair proportion of farms in the second category, particularly those in which the operator was owner, could have been salvaged by government credit policies free of the creaming concept. Tenant operators, on the other hand, were caught in an institutional structure that had been established to protect the landowner, and little could have been done to prevent their displacement without radical changes in the institutions of southern agriculture.[5]

Summary

The foregoing argument can be reduced to several propositions relating to the displacement of farm-family labor.

1. Technological changes in agriculture have increased the minimum size of an economically viable farm. Agricultural production has become more capital intensive, and low production costs require that the operator have sufficient land to justify use of the smallest indivisible units of technologically efficient capital. This had led to a great reduction in the number of small farms, regardless of race of the operator. Small farms in the cotton states--Alabama, Mississippi, Louisiana, Arkansas, Texas, South Carolina, and Georgia--were particularly vulnerable.

2. If there are economies of scale in agriculture, long-run pressures on small farmers will be greater than those imposed by technological change alone. But the shift to capital-intensive methods is sufficient to account for much of what has happened, regardless of scale considerations.

3. A higher percentage of black farmers were adversely affected by the increase in minimum farm size than white farmers. Wherever the minimum line occurred, a larger number of blacks were below than above it.

4. On all farm sizes a larger proportion of black operators were tenants than were white operators, and a smaller proportion of blacks were either full or part owners. They were therefore more susceptible to displacement by a decision of the owner to shift to more capital-intensive methods.

5. The data show that a high proportion of all farms, and a very high proportion of farms operated by blacks, are still smaller than one hundred acres (see table 5). Insofar as the argument of this paper has any validity, this suggests continuing displacement in crops affected by new methods and relatively greater displacement among blacks.

6. On farms of all sizes, blacks were disadvantaged in the transition of capital-intensive methods. They had fewer assets, less access to credit, and as a consequence of poor educational background and less help from extension programs of the U.S.D.A., less adaptability to change. Consequently, they show more displacement on farms of all sizes, and much heavier displacement on large farms.[6] In fact, the displacement of black operators on larger farms, though less severe than on small farms, was high enough to make one suspect that inability to acquire capital was

more important than concentration on small farms in determining the blacks low survival rate in agriculture.

In conclusion, concentration on small farms is not the only--and possibly not the principal--cause of the black farmer's disproportionate displacement in southern agriculture. But the twin facts that a very much greater percentage of black farmers than white farmers operate farms of less than one hundred acres and that there is a much higher displacement of farms of less than one hundred acres than of farms larger than one hundred acres, account numerically, if superficially, for much of the difference. Also, the facts that well over half of southern black farm families in 1950 grew cotton--the crop hardest hit by technological change, conversion to capital-intensive methods, increased minimum farm size, and perhaps, economies of scale--and that blacks were at a disadvantage in acquiring capital help to provide a plausible, if partial, explanation of what has happened. Finally, despite heavy displacement of small farms, many southern black farmers still operate small farms, suggesting continued poverty and deprivation for those who remain and further movement of blacks out of agriculture.

Table 1

White Family Worker

Agricultural Employment - South

(Thousands)

	Basic Counts			
Year	Number	Index	Decline from previous year	Cumulative decline
1950	2,741	100.0	--	--
1951	2,629	95.9	112	112
1952	2,478	90.4	151	263
1953	2,368	86.4	110	373
1954	2,287	83.4	81	454
1955	2,203	80.4	84	538
1956	2,008	73.3	195	733
1957	1,932	70.5	76	809
1958	1,864	68.0	68	877
1959	1,831	66.8	33	910
1960	1,731	63.2	100	1,010
1961	1,695	61.8	36	1,046
1962	1,635	59.6	60	1,106
1963	1,613	58.8	22	1,128
1964	1,514	55.2	99	1,227
1965	1,389	50.7	125	1,352
1966	1,302	47.5	87	1,439
1967	1,271	46.4	31	1,470
1968	1,229	44.8	42	1,512
1969	1,192	43.5	57	1,549

SOURCE: Farm Employment, Statistical Bulletin No. 334 (Washington: Department of Agriculture, 1963); Number of Farms: 1910-1959, Statistical Bulletin No. 316 (Washington: Department of Agriculture, June, 1962); Farm Labor, U.S.D.A. Crop Reporting Board, 1963 to present (Washington: Department of Agriculture).

Table 2

Nonwhite Family Worker

Agricultural Employment - South

(Thousands)

	Basic Counts			
Year	Number	Index	Decline from previous year	Cumulative decline
1950	767	100.0	--	--
1951	711	92.7	56	56
1952	646	84.2	65	121
1953	599	78.1	47	168
1954	561	73.1	38	206
1955	527	68.7	34	240
1956	467	60.9	60	300
1957	432	56.3	35	335
1958	397	51.8	35	370
1959	376	49.0	21	391
1960	360	46.9	16	407
1961	319	41.6	41	448
1962	298	38.9	21	469
1963	279	36.4	19	488
1964	264	34.4	15	503
1965	221	28.8	43	546
1966	197	25.7	24	570
1967	180	23.5	17	587
1968	171	22.3	9	596
1969	158	20.6	13	609

SOURCE: Farm Employment, Statistical Bulletin No. 334 (Washington: Department of Agriculture, 1963); Number of Farms: 1910-1959, Statistical Bulletin No. 316 (Washington: Department of Agriculture, June, 1962); Farm Labor, U.S.D.A. Crop Reporting Board, 1963 to present (Washington: Department of Agriculture).

Table 3

Family Worker Agricultural Employment,

In Man-Years

(Thousands)

Year	Total Family Workers		Total man-years	
	Number	Index	Number	Index
1950	--	--	2,501	--
1951	3,340	100.0	2,315	100.0
1952	3,124	93.5	2,105	90.9
1953	2,967	88.8	1,946	84.1
1954	2,848	85.3	1,817	78.5
1955	2,730	81.7	1,704	73.0
1956	2,475	74.1	1,504	65.0
1957	2,364	70.8	1,375	59.4
1958	2,261	67.7	1,309	56.5
1959	2,207	66.1	1,248	53.9
1960	2,091	62.6	1,146	49.5
1961	2,014	60.3	1,017	43.9
1962	1,933	57.9	1,003	43.3
1963	1,892	56.6	955	41.3
1964	1,778	53.2	878	37.9
1965	1,610	48.2	789	34.1
1966	1,499	44.9	736	31.8
1967	1,451	43.4	713	30.8
1968	1,400	41.9	686	29.6
1969	1,350	40.4	663	28.6

SOURCE: Farm Employment, Statistical Bulletin No. 334 (Washington: Department of Agriculture, 1963); Number of Farms: 1910-1959, Statistical Bulletin No. 316 (Washington: Department of Agriculture, June, 1962); Farm Labor, U.S.D.A. Crop Reporting Board, 1963 to present (Washington: Department of Agriculture). Data for reduction to full-time equivalents came from the 1954, 1959, 1964 and 1969 Censuses of Agriculture of the U.S. Department of Agriculture. Intercensal-year reduction factors were computed by linear interpolation between census years. The calculations were made on a state-by-state basis for reasons associated with the "Black Employment in South" project funded by the U.S. Department of Labor and the Equal Employment Opportunity Commission and directed by F. Ray Marshall. The data in the tables are aggregations of these series.

Table 4

Proportion Farms Displaced

1950 to 1964

(By Farm Size and by Race of Operator)

State	Less than 50 acres		Between 50 and 100 acres		200 or more acres	
	White	Black	White	Black	White	Black
Kentucky	.5130	.4891	.4373	.5013	.1337	.0348
Tennessee	.5245	.5441	.4351	.5989	.1088	.1986
Alabama	.6547	.6487	.5766	.6337	.0737	.3718
Mississippi	.6349	.7436	.4665	.5429	.0495	.3453
Arkansas	.6721	.8318	.5838	.6718	.1414	.3699
Louisiana	.5379	.7298	.3752	.5420	.0657	.4716
Oklahoma	.5095	.6909	.4738	.6953	.0928	.3062
Texas	.5498	.6890	.4461	.6298	.0758	.3863
Virginia	.5825	.6030	.4563	.5643	.1203	.4240
West Virginia	.7281	.7818	.5775	.7125	.1822	.5000
North Carolina	.5725	.5904	.4334	.5756	.0578	.3584
South Carolina	.6761	.6775	.5276	.6859	.1462	.6582
Georgia	.6415	.7868	.6021	.8023	.1100	.6601
Florida	.2709	.6463	.3832	.6251	.0103	.4187

SOURCE: U.S. Department of Agriculture, Census of Agriculture for 1950 and 1964 (Washington, D.C.: Government Printing Office).

Table 5

Farm Size, by Race of Operator

1964

State	Percent less than 10 acres		Percent less than 50 acres		Percent less than 100 acres	
	Black	White	Black	White	Black	White
Kentucky	35.5	10.7	70.4	32.7	85.3	57.5
Tennessee	17.7	8.8	73.9	37.7	88.8	62.6
Alabama	11.2	4.4	67.2	34.6	85.1	58.4
Mississippi	4.1	2.9	67.6	27.9	85.8	51.9
Arkansas	13.9	3.1	64.9	25.1	84.9	45.6
Louisiana	10.9	6.9	74.9	45.4	91.2	65.2
Oklahoma	3.3	2.1	35.2	14.9	55.6	27.5
Texas	8.0	3.0	53.2	16.8	77.9	31.2
Virginia	18.6	6.7	60.5	31.8	81.5	53.5
West Virginia	9.8	2.6	52.2	26.4	77.2	52.2
North Carolina	16.3	7.9	71.8	42.3	89.9	68.4
South Carolina	16.2	4.0	75.9	33.0	91.0	57.4
Georgia	9.8	5.2	49.7	26.4	73.3	48.0
Florida	17.1	16.3	61.2	52.2	81.3	66.3

SOURCE: U.S. Department of Agriculture, 1964 Census of Agriculture (Washington: D.C.: Government Printing Office).

Chapter IV

Southern Nonmetropolitan Industrialization: A Review of the Literature

Thomas Till*

The industrialization of southern nonmetropolitan labor markets is significant for several reasons. First, given the drastic decline of agricultural employment, the high level of underemployment in southern rural areas naturally raises the question, can and should the industrialization of such areas be part of a rural poverty policy? Second, the evolution of analytic approaches to poverty is restressing the problem of labor demand in rural subareas of the economy. The early focus seems to have been on maintaining high national aggregate demand by appropriate monetary and fiscal policies. Next, though not denying the relevance of aggregate demand, came the structuralist and human capital theories. The latter, particularly, sometimes seems to imply that people are poor just because they lack marketable skills.

More recently, quadruple or tripartite labor markets have been proposed as the appropriate theoretical tools.[1] Research has indicated that certain groups of the rural poor (especially those with little education and over forty-five years of age) are generally unwilling or unable to

successfully migrate.[2] Further, rapid net outmigration of the young over several decades has left some rural areas with heavy human capital losses, serious underutilization of social and physical infrastructure, and a high dependency ratio. These social costs of migration to a region (and to the "people left behind") again suggest the question, should labor demand in nonmetropolitan labor markets be increased through rural industrialization policies?

The relevant question is the social rate of return from rural industrialization efforts in comparison to, or in combination with, alternative policies (e.g., increased manpower and formal educational training, migration, and relocation assistance). The answer is still not known, and such a cost-benefit study would probably be difficult.

In this chapter, the general topic will be divided into a subset of questions:

(1) Has industrialization been occurring in sizable amounts in southern nonmetropolitan counties?

(2) Has it located in the SMSA fringe or in more distant nonmetropolitan areas?

(3) Which specific industries have come to rural areas? What are the locational factors involved?

(4) What is the impact of rural industrialization on rural poverty?

I will not cover the literature on certain other topics, including,

(1) How effective have local, state, and federal efforts been to attract industry? What are the costs and benefits of such activities?

(2) Which industries are likely future locators in southern rural areas? Why? In what amount?

Finally, a few definitions seem necessary for clarity. This work will not focus on the census meaning of "rural," which includes both open country and any town with less than 2,500 people. Not only are data inadequate for such rural analysis, but also it seems functionally unwise to separate such a hinterland from the nearby urban center that acts as its central place or service center. In this study the focus will not be on counties that are part of an SMSA or its "fringe." Operationally, this will mean that attention will center on counties more than fifty miles from the central city of an SMSA. For variety, these counties will be termed "non-SMSA labor markets," "nonmetropolitan labor markets," "nonmetropolitan markets," "rural counties," "more distant rural counties," or "more distant nonmetropolitan counties." All these terms are used interchangeably for stylistic purposes and have the identical meaning: counties more than fifty miles from an SMSA. As a reminder that "rural" is not used here in the census sense it will

occasionally be put in quotes in the text. In contrast, "SMSA labor markets" will refer to the SMSA counties plus those under fifty miles from an SMSA. These counties will occasionally also be labelled "metropolitan" and "rest of the state." Thus this work focuses more on the metropolitan-nonmetropolitan distinction than on the urban-rural division.

A. Extent and Location of Rural Industrialization in the South

The benefits of a policy that seeks the impossible are few. So the first question concerns the possibility of achieving rural industrialization without prohibitively high levels of subsidization. Since what has been happening is obviously, ceteris paribus, possible, the query reduces itself to determining the amount of rural industrialization that has occurred in recent decades.

There has been controversy over this. Some regional economists and geographers, especially those whose work has been centered on SMSAs, imply that rural industrialization is not sizable and that what exists is not very desirable.[3] They cite as evidence the comparatively more rapid growth of SMSAs in recent decades in population and total employment. As a casual factor, they mention the agglomeration

economies of SMSAs, which are largely absent in distant rural areas. They believe that what little rural industrialization has recently taken place has been located mainly on the urban fringe. But some agricultural economists and demographers have challenged these findings.[4]

Consequently, two questions about factual patterns emerge:

(1) Has industrialization occurred in sizable amounts in recent decades in rural areas?

(2) Has its location been on the SMSA fringe or in more distant rural areas?

1. Extent of Rural Industrialization

Goodstein points out that the evidence above is too aggregative to really answer the question.[5] First, since the great decline in primary (especially agricultural) employment was naturally concentrated in nonmetropolitan counties, population and total employment changes are not relevant. Data on changes in nonprimary employment, especially manufacturing (because of its special significance to indirect job creation) are needed. Second, the undoubted importance of agglomeration economies in SMSA growth does not prove the point. It remains to be proved for each industry (or for the majority of jobs created by industry) that net agglomeration economies are greater in SMSAs than in non-SMSA counties.

More positively, the clearest data are given by Goodstein and Haren in the articles already cited. They strongly support the conclusion that considerable industry has been coming, absolutely and relatively, to southern nonmetropolitan labor markets.

Goodstein gives the data for 1940-1950 for twelve states of the Southeast. Using Ashby's county data drawn from the U.S. population census,[6] he finds that the urban counties (i.e., SMSA counties) were superior relatively but not absolutely in nonprimary employment changes, while in manufacturing, the rural counties (i.e., non-SMSA) gained more jobs both absolutely and relatively:

> Nonprimary employment rose more rapidly in the urban than in the nonurban areas of the region in percentage terms (92.9 percent versus 80.3 percent), but in terms of absolute numbers the increments were practically identical . . . Within a nonprimary sector, the urban share of manufacturing in the South as a whole actually declined slightly over the twenty-year period, from 40.9 percent to 39.5 percent . . . Thus, among the individual states nonurban areas played a more significant role than urban in the expansion of manufacturing in terms of both changes in relative shares and absolute increments.[7]

In the article cited, Haren shows that small labor market areas in the South gained more manufacturing jobs from 1962 to 1969, absolutely and relatively, than the large areas.[8] The small labor market areas include the smaller SMSAs as well as nonmetropolitan counties, but the findings are still impressive.

Finally, I found that the growth of nonfarm jobs (especially in manufacturing) in southern nonmetropolitan counties more than fifty miles from an SMSA was large, and not minimal. The increase in manufacturing employment from 1959 to 1969 was 61 percent, a gain of 309,000 jobs. Rural nonfarm jobs jumped 49 percent, an absolute gain of 674,000. Further, the manufacturing increase was relatively greater than the 43 percent gain of the southern SMSAs.[9] The weight of the evidence thus indicates that rural industrial growth in the South has been considerable.

2. Location of Rural Industrialization

To consider the second point: have the rural industries been locating mainly in the SMSA fringe (and hence functionally are part of the SMSA) or in the more distant rural counties? My own research revealed a negative answer to this question. When southern counties were classified by distance from the nearest SMSA, those more than fifty miles from an SMSA grew faster relatively than those nonmetropolitan counties

within that limit. The growth rates for the decade 1959-1969 were 61 percent to 53 percent, respectively, for manufacturing jobs; and 49 percent to 48 percent, for nonfarm jobs as a whole.[10]

B. Locational Factors

This section surveys literature relating to an explanation of why such industrialization took place.

1. Contributions from Theory

There is a general consensus that industrial location theory is currently inadequate. Given the limitations of the usual neoclassical theory of the firm, the addition of economic variations over space (perhaps the most undeveloped variable in economics) compounds the weaknesses.

Classical location theory of the firm[11] predicts location at the point of minimum transport costs. The obvious inadequacies of this as a realistic norm led to the addition of substitution analysis[12] to deal with material, labor, and other nontransport inputs. The result is a theory that predicts location at the point of minimum costs. The glaring omission of revenue factors is handled by Lösch with his theory of market areas. Also on the demand side, the assumption of perfect competition is dropped by Hotelling

and Chamberlin[13] in their highly oversimplified but path-breaking investigation of two or more sellers locating on a linear spatial market. This was extended by Greenhut's and Hoover's analyses of the effects of spatial demand on the optimum location of a firm.[14]

Given the interdependence of location decisions by firms, attempts have been made to develop general equilibrium models by Lefeber, Lösch, and Isard.[15] These are revealed by Isard.[16] Generally, they stay within the comparative static, neoclassical framework by attempting to wed location theory and general equilibrium analysis. In a more recent effort, Isard tried to extend the model by adding social, psychological, and political variables.[17] This ambitious effort is summarized in Karaska and Bramhall's anthology.[18] Efforts to deal with the important question of the influence of scale and agglomeration economies on the location of a firm have been made by Hoover, Isard, Manne, Vietorisz, Koopmans and Beckmann, Reiter and Sherman, and Lawlor.[19] Isard's "industrial complex" analysis is also such an attempt.[20] The success of these efforts is limited. As one observer points out, "No deductive analytic system, based on the economic theory of the firm, has been developed to deal simultaneously with internal and external economies and their influence on location patterns."[21]

Given the static nature of the neoclassical location theory, the need for a dynamic analysis has led some to turn to "growth point" theory developed by Perroux.[22] Though this offers considerable insights and has inspired the "growth center" literature, it is afflicted with vagueness of both concepts and behavioral relationships.

Isard himself admits that the general locational model is largely nonoperational.[23] Practically, we are thus left with little else but the list of categories implied by space demand and cost curves. "The following summary list is suggested as including those considerations that appear in virtually every list: Market; Labor; Transportation; Raw Materials; Power, Fuels and Water; Community Factors; Site Factors."[24] Greenhut's list is also often used, "Transport Costs; Processing Costs (Labor, Capital, Taxation); Demand Factors; Cost-Reducing and Revenue-Increasing Factors (e.g., industries where personal contacts with customers are very important); Purely Personal Considerations."[25]

2. Empirical Contributions

Because of the relatively nonoperational state of general location theory, most of the relevant work has been empirical (and mainly descriptive) in nature. The aim has not been to test theory, but rather to understand location factors and patterns and to arrive at statistical explanations that might

be useful for prediction and policy purposes. (The classical summary of methods has been Isard's Methods of Regional Analysis.[26]

Although most of the research has been in the category of general economic development of the South, this topic will be briefly treated since our specific concern is the industrialization of southern nonmetropolitan areas. Studies will be immediately relevant only if they make the SMSA--non-SMSA distinction.

The first group of works includes empirical studies of industry location patterns in the whole United States.[27] Most of these will have sections on the industrial development of the South and its three census divisions. The classic by Perloff et al., Regions, Resources, and Economic Growth, traces in part three the regional development of the South, 1870-1950. In part four, the locational behavior of various industries can be found for the South, 1939-1954, by one-digit Standard Industrial Classifications (SIC) for all industries and two-digit SIC for agriculture and manufacturing. Unfortunately, the analysis does not disaggregate below the state level, and no metropolitan-nonmetropolitan breakdowns are used. Fuchs' important work on manufacturing shifts since 1929 also uses "shift-share" analysis and does not use a unit below the state level. Mattila and Thompson's econometric model of postwar industrial patterns also has the same problem.

Creamer's two studies of manufacturing, 1947-1966, disaggregate more deeply by using the following categories:

A. The principal city of an industrial area

B. A satellite city with 100,000 or more population in the industrial area

C. Remainder of industrial area

D. A city of 100,000 or more population outside industrial area

E. Remainder of county in which D. city (100,000 population outside industrial area) is located

F. Important industrial county outside industrial areas having 10,000 manufacturing employees but no city as large as 100,000 population

G. Remainder[28]

These categories are sufficient to show a shift from large SMSAs to smaller and from central city to suburb, but rural areas and many small SMSAs are lumped together in the residual category, G. Consequently, our questions are not answered.

A second group of studies is specifically on southern economic development.

The most general and detailed of these is Edgar S. Dunn's Recent Southern Economic Development.[29] This uses "shift-share" techniques to analyze changes in total employment (by one-digit SIC and two digits for agriculture and manufacturing) for the thirteen southern states, 1939-1958. He

finds that the "industry-mix" (or composition) effect had a negative influence on employment (i.e., the South had a relatively large proportion of slow-growing industries). But the "within-industry" (or competitive) effect was positive (i.e., the South gained a greater proportion of employment within each industry), and the latter effect outweighed the former. Another finding (with considerable significance for future growth) is that the South's industry mix was improving in both agricultural and manufacturing employment. But there is no SMSA--non-SMSA breakdown of the data.

Maddox et al. in The Advancing South[30] spend the first four chapters on the change in southern employment, especially for 1940-1960, using data from the U.S. Census of Population. But again, no nonmetropolitan statistics are given. Other general works on southern economic development are listed in note[31].

The next group of area studies examines certain parts of the South.

Quittmeyer and Thompson[32] cover changes in manufacturing employment, 1929-1958, in the southern Appalachian region (i.e., the Appalachian parts of states from West Virginia and Virginia in the North to Alabama and Georgia). Data used are from the U.S. Census of Manufacturing and a 1958 questionnaire survey of area industrialists.

However, as with the following studies, no metropolitan-nonmetropolitan disaggregation is given.

William R. Shriver uses aggregate statistics to analyze nonfarm employment changes in the eastern south-central states (Alabama, Kentucky, Mississippi, and Tennessee) from 1950 to 1966.[33] Locational factors are then analyzed. His hypothesis is that low processing costs are the main factor. An interview study of 307 firms that located in Tennessee, 1955-1965, is used as a test. The results support the hypothesis. The article closes with a brief examination of economic and social consequences of such industrialization. Other studies on subareas of the South are listed in note [34]. Findings of these studies are not analyzed because there is no metropolitan-nonmetropolitan division of the data. So it is impossible to tell if the development were in the SMSA or in rural areas. Also, few of these authors provide solid, quantitative analysis of the locational factors behind the patterns.

Several methods have been used to quantitatively get at the causes. First, there have been studies of the comparative locational advantages of an area. The most extensive have been those of New York (summarized by Raymond Vernon[35] and Pittsburgh (by Lowry[36]). Chapman and Wells[37] study the location advantages of Atlanta and the multiplier effect of new industrial jobs.

The second method to explain location has been the questionnaire survey of area industrialists. Those for other parts of the United States can be enlightening. (See the Michigan surveys by Mueller, Wilken, and Wood;[38] and Katona and Morgan.[39] Studies on the South are by Saltzman,[40] who examines eighteen small communities in Oklahoma; Moeller,[41] who surveys five hundred firms in the south-central U.S.; and McLaughlin and Robock.[42] In Why Industry Moves South, McLaughlin and Robock given the results of an interview survey of firms responsible for eighty-eight new plants in the South, 1945-1948. All states are represented, and every industry group except tobacco. Eighty-three of eighty-eight are branch plants. They present and discuss cases under "market-oriented," "labor-oriented," and "material-oriented" categories. Almost no aggregate data are given, but the discussion of case studies is illuminating. The authors conclude by stressing markets and availability of labor and by downplaying cheap labor as locational factors. No hard data are presented to support their conclusions.

Some of the most careful questionnaires (from an analytic point of view) are those of Greenhut. Part III of his Plant Location in Theory and in Practice[43] discusses eight firms which located near Auburn, Alabama, after World War II. However, they are chosen mainly to illustrate locational factors.

Greenhut and Colberg's Florida study[44] is very careful and especially interesting because Chapter 6 discusses "Location Factors in Urban and Rural Counties." Examining the location in new manufacturing plants in 1956-1957, they found that:

(1) The industries most attracted to "underdeveloped" (a rough equivalent of nonmetropolitan) counties were food and kindred products, lumber and wood products, and chemicals; and the least attracted were printing and publishing, fabricated metal products, and electrical machinery.

(2) Within an industry, smaller-size plants prefer a "developed" location.

(3) Other possible locators in rural areas are transportation equipment, stone, clay, and glass firms.

Besides the above two groups of southern area studies, there is a third set of works on general rural development in the nation.

An Economic Research Service study, Regional Variations in Economic Growth and Development,[45] uses the criteria of population density and the urban percentage of population to develop six categories:

	Percentage Urban	Population Per Square Mile
Metropolitan (major SMSA)	85-100	100+
	0-100	500+
Urban (minor SMSA or SMSA fringe)	0- 84.9	100-499.9
Semi-isolated urban	50-100	0- 99.9
Densely settled rural	0- 49.9	50- 99.9
Sparsely settled rural with urban population	.1- 49.9	0- 49.9
Sparsely settled rural without urban population	0	0- 49.9

Its results are:

(1) Urban orientation is directly correlated with an index of economic development (simple correlation coefficient: .5377).

(2) But private nonfarm employment changes, 1959-1968, are not so correlated (correlation coefficient: -.0499). More detailed evidence shows the relatively superior performance of the more rural areas (semi-isolated urban, densely settled rural, and sparsely settled rural with urban population):

	Nonfarm Employment, Annual Changes (%) 1959-1968	Manufacturing Earnings, Annual Changes (%) 1959-1967
Metropolitan (major SMSA)	2.91	6.0
Urban (minor SMSA or SMSA fringe)	3.65	7.6
Semi-isolated urban	3.99	8.4
Densely settled rural	3.73	9.0
Sparsely settled rural with urban population	3.81	8.6

Sources: County Business Patterns for employment changes; Office of Business Economics, for manufacturing earnings data.

Another general study on rural industrialization by Rutlan[46] is skeptical of the potential of rural industrialization: "It seems equally clear that the recent dispersion of industrial employment to the less industrialized regions has not been accompanied by any substantial increase in the proportion of total manufacturing employment located in the smaller cities and towns of the nation. (Table 12.5)"[47]. Yet the table cited is dubious proof, for it shows that nonmetropolitan counties gained 31 percent of changes of manufacturing employment, 1947-1954, while in the base year of 1947, they possessed only 26 percent.[48]

Finally, a small group of development studies deals specifically with southern rural industries. A leading work is that of the Abt Associates, Inc., The Industrialization of Southern Rural Areas.[49] This is basically a case study using field survey methods. Two small towns that had undergone rapid industrialization in the last ten years were chosen. Each had a population between five and twenty thousand and was at least fifty miles from an SMSA. One was in Mississippi with Memphis the nearest SMSA; the other was in South Carolina with Charlotte, North Carolina, the nearest metropolis. The two nearby Economic Development Administration (EDA) growth centers, called "Mississippi City" and "South Carolina City," were also included.

Field interviews analyzed the growth-center characteristics of each, as well as the impact on poverty and underemployment (black as well as white). Community services and subsidies to industry were studied and evaluated. The main findings include:

> (1) A small town (with population of five to twenty thousand) having certain characteristics may act as the employment center of a sizable labor market. The functioning of such a town as a labor-market center is the prime mechanism for for economic growth in some regions, and allows the town to achieve a near-autonomous growth.
> (2) Although industry has enabled many small towns to grow in terms of population size and total income, disadvantaged groups which are predominantly black have not shared in the benefits of this growth to a satisfactory extent.
> (3) A "market for industry" exists, in which a few towns with inadequate information about industry tend to offer too high a price to attract industry; industry is not significantly motivated to locate by subsidies which are normally offered, and cannot obtain adequate information on labor-market potential, the possession of which can be a prime inducement to locate.[50]

This first finding is hard to generalize, since the two towns were selected because of their past successful records of industrialization.

Other findings relate to a common hypothesis: "Traditionally, growth centers have been thought of as manufacturing centers. Small towns and rural areas have been discounted as growth centers, because they were thought to be attracting agricultural, agricultural processing, and resource-extracting economic activities. At best, they might be expected to gain a low-wage textile plant." [51] But the Abt study finds that with the exception of "South Carolina City," the manufacturing firms in the urban areas are neither primarily labor-intensive, slow-growth, or low-wage. In keeping with the trend noted by Fuchs in his Differential in Hourly Earnings by Region and City Size, 1959, [52] the wage level in the Abt study does decline with city size.

Consequently, it is not surprising that the main factor for locating in the region was labor availability and low wages: "Of the twenty-five firms which commented at some length on the chief factor in their decision to locate in the general region, five were resource-oriented (timber in every case), fifteen stressed the labor factor as dominant, and five were firms started by native inhabitants." [53]

When the twenty nonnative firms were asked why they chose the specific town within the region, eight cited labor

supply as dominant, and five farms, all located in "South Carolina City" or "Mississippi City," stressed the salesmanship of the town or county. Only one firm mentioned financial inducements offered by the town as a factor. This indicates again the importance of local salesmanship.

The results of this case study are interesting and valuable, but obviously conclusions cannot be drawn from them for the South as a whole.

Other works on rural industrialization in subareas of the South are by Luttrell and Armentrout[54] and Metzler and Charlton.[55]

So far the discussion has been on location in terms of current rural community characteristics. A more dynamic argument is presented by Alfred Eichner.[56] His basic thesis is that state development agencies should upgrade the skills of labor through manpower training in order to attract high-wage, high-growth industry. While plausible on a priori grounds, the only evidence presented is a verbal growth model that makes growth a function of possessing high-wage, high-growth industries and the latter a function of skilled labor force. No data to support the model are given. However, the author describes the South Carolina Committee on Technical Education, which provides manpower training for prospective firms. But again, its operations are merely described, and no data are given to evaluate

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the effectiveness of this approach in attracting industry.

Which industries have been coming to the rural South? And why? These are the questions that prompted this section. The literature reviewed can be summarized by stating that:

(1) Precise locational patterns are known for the South as a whole but not for the nonmetropolitan South.

(2) For the nonmetropolitan South, only isolated case studies--such as those of Abt Associates plus Greenhut and Colberg on Florida--have been done.

Consequently, the questions asked still remain to be answered.

C. The Impact of Rural Industrialization on Rural Poverty

A surprisingly large amount of research has been done, especially by the Economic Research Service of the U.S. Department of Agriculture (ERS) and the agricultural experiment stations.[57] However, much of the literature is not rigorous, and almost all of it is essentially short run.

1. Methods

Basically, impact studies are part of the general theory of growth. However, regional Harrod-Domar models or neoclassical growth models have been little used, mainly

because of data deficiencies (no system of regional income and product statistics exists) and the high level of aggregation of the models. General equilibrium models have been avoided for similar reasons, although they are certainly relevant, especially when plant relocations occur. Growth pole theory has been investigated by Stevens et al.,[58] but vagueness inhibits its usefulness.

The methods most used have been multiplier analysis (and the closely related economic-base theory) and input-output techniques. Output, income, and employment multipliers can be calculated, but usually the focus is on the last two.

a. Multiplier Analysis

Often the multipliers (i.e., the impact of a new plant) are empirically determined by a case study. An example is Wadsworth and Conrad's study of the impact of a new plant in Linton, Indiana, a small town of six thousand in a rural county in southern Indiana.[59] First, the income multiplier was computed by finding:

(1) The income directly created (i.e., the payroll of the plant).

(2) The indirect income (i.e., the plant's purchase of local inputs, e.g., trucking services).

Next, the resulting figure of $326,000 was reduced for leakages (i.e., the previous wages of workers who had quite jobs outside the county to work in the new plant, the payroll of nonresident workers, increased savings, and net debt retirement). Subtracting these left only $39,650. Then the propensity to consume locally was empirically determined to be .74.

(3) The induced local consumption, determined by multiplying $39,650 by the income multiplier ($\frac{1}{1-b} = \frac{1}{1-.74}$). The final increase in income in Linton was thus determined to be $158,600. Dividing the sum of indirect and induced income by the direct income then gives the income multiplier.

By similar methods, the direct, indirect, and induced number of jobs created (the employment multiplier) were estimated.

Sometimes coefficients for multipliers (or, in economic base studies, for the "base to service sector" ratio) are taken from other research. (For an example, see the appendix on methodology in Rural Industrialization in the Ozarks.)[60] This, of course, saves time, but the resulting findings are of dubious value. For it is clear that the size of town (or whatever the impact area may be), its distance from an SMSA, the amount of excess capacity in its service sector and other factors, will change the impact of the new plant.

b. Input-Output Analysis

Basically, the coefficients of an input-output model are used, with allowance made for leakages, to determine sectoral income and employment multipliers. Sometimes coefficients from other areas are used, but this is very risky. Ideally, an input-output table should be constructed for the local economy. For an example on the state level, see Little and Doeksen's [61] model for Oklahoma. On the local level, consult the Economic Research Service study, Evaluating the Economic Structure of a Rural Area, Demonstration of an Input-Output Analysis. [62]

A useful analytic discussion of the local multiplier, together with a survey of several examples of its use, is chapter 6 in Moes.[63] "How to do it" descriptions can be found in chapter 5 of Industrial Location as a Factor in Regional Economic Development [64] and in the appendix of the Economic Research Service booklet, Rural Industrialization in the Ozarks, mentioned above.[65] The former discussion, although incomplete, is far superior to the latter.

2. Findings of Impact Analysis

A major group of articles is centered on the "industrialization hypothesis." This states that the development of agricultural areas is directly proportional to their proximity to industrial-urban centers. First stated by

Theodore Schultz[66] it was developed by Nicholls[67] in research on the eastern Tennessee Valley region and by Tang.[68]

The analytic analysis contended that both the agricultural factor and product markets functioned more efficiently near urban-industrial centers (e.g., farm labor had the alternative of off-farm earnings; more investment capital was available on better terms, etc.). The empirical test was made by time-series data. Neighboring agricultural counties initially similar in activity and culture were selected. Then, over a time period of nearly one hundred years farm income, output, and investment per acre of the counties that industrialized were compared with those that had not (the latter thus serving as a control group). The marked differences supported the hypothesis. This line of argument runs into admitted ceteris paribus problems, but given this limitation, the handling is ingenious and competent. Efforts to test the theory on a national scale were made, with mixed results, Dale Hathaway in the 1960 census monograph, People of Rural America.[69] Other work, with findings generally supporting the hypothesis, includes Bryant,[70] and Ruttan.[71]

In contrast to the very long-run studies above, the usual impact study tries to measure the short-run effect of a new plant on the income and employment of the local

community or county. Many of these have been made, of varying quality. From these, certain conclusions emerge:

(1) Rural industrialization raises the income and employment of local people. In Ruttan's words, "There is little doubt . . . that the level of farm family income is closely related to the extent of local urban-industrial development. When the median income of rural farm families are plotted on one axis and the proportion of the total population that is nonfarm on the other axis of the chart the result for most areas is a very clear positive relationship."[72]

Dale Hathaway adds, "There is no doubt that local industrial development which offers nonfarm occupations without necessitating change in residence offers an advantage to local agriculture as well as to those who take nonfarm jobs. Analysis of part-time farming in Georgia and North Carolina shows that part-time farming, even at relatively low nonfarm wage rates, will result in significant improvements in family income." [73]

This result, while important, is rather obvious. If subsidization is involved, however, it by no means follows that the benefits are greater than the costs, especially the opportunity costs of alternative uses of investment (e.g., increased manpower training, education, health, and relocation assistance). The case for such uses, especially

in light of the present tragically inadequate preparation of migrants for successful transition, is strongly made by Hansen.[74]

An important benefit of rural industrial development for farm families is through enlarging the opportunities for part-time farming. Research shows that many plant employees will not move to town, but will continue to farm on a part-time basis (for evidence see Economic Research Service, Rural Industrialization in the Ozarks; and Paul Price et al.[75] This significantly raises farm income levels. Hathaway points out that, "Despite the disdain of farm management economists for part-time farming, it appears that this provides an optimum way of integrating industrial development into local farm communities."[76]

An example of the importance of off-farm employment to farm families is provided by Sutherland's study of small farms in the southern piedmont of North Carolina. He found that

> in 1954, 41 percent of farmers in North Carolina were employed in off-farm work. Sixty-one percent of those so employed worked off the farm 100 or more days. In addition, 17 percent of the farmers reported that family members other than the farm operator worked off the farm. On 27 percent of the farms, income received from off-farm sources was

> greater than the value of farm products sold. An earlier study indicated that, in 1949, approximately 46 percent of the net income received by North Carolina farm families was received by persons whose major occupation was in nonfarm employment.[77]

His linear-programming examination of alternative combination of resources concluded that if about $16,500 of investment capital is added, full-time farming becomes as profitable as part-time or full-time nonfarming, but because of the risks involved a combination of part-time farming and a modest increase of investment seems preferable. Similar results came from Saunder's linear-programming analysis of part-time farming in Georgia.[78] Given the limited access of small southern farmers to investment capital, part-time farming seems to be the most practical strategy.

A frequent objection is that much rural industrialization is of little benefit because it mainly employs women (e.g., Textile and apparel firms). It is true that this can demoralize men in coal-mining areas where unemployed men have no alternative occupations. But in the more usual rural agricultural regions, it is hard to accept the argument. For given the underemployment in farm families, jobs for wives and daughters can raise farm-family income levels. Since the husband can continue farming (for an example, see, Rural Industrialization

in the Ozarks[79]), there is little reason why he should be demoralized.

A second conclusion from impact studies is that the number of jobs created for local people in a rural poverty area depends, among other things, on the skill level demanded by the plant. In this respect, the high-wage, high-skill plant so often regarded as the ideal project is by no means an unmixed blessing. Given the unskilled, poorly educated labor supply in most depressed areas, the jobs in a high-wage plant may go mainly to outsiders. An example of this is the Kaiser Aluminum plant that located in rural West Virginia in 1957 described by Irwin Gray.[80] He estimates that out of the four thousand jobs created by the plant, only six hundred went to local people; the rest were taken by more skilled outsiders.

The corollary of this is that the low-wage, labor-intensive plant (often condemned for its low pay) has a much higher local employment multiplier, because its labor demand fits the skill characteristics of the local labor supply. Analytically, the problem seems to be a double labor market: one skilled, the other unskilled. The labor demand from the Kaiser plant pertained to the skilled market, but the local labor supply pertained to the unskilled. Unless, as Eichner recommends[81] and as South Carolina and other states are trying to achieve, skill levels of local people

are improved (it would be worthwhile to see for how many jobs this can be done in the time available), the barriers between the two markets will significantly reduce the effect of the high-wage plant on local poverty and underemployment.

A third conclusion is that, for the above and other reasons, the size of the income and employment multipliers varies considerably. Size of the area, the amount of excess capacity in the service sector, and other facts will affect it. For example, Edgar Z. Palmer et al. estimate multipliers for fourteen different communities.[82] The one for the largest area (New York SMSA) was two and a half times that of the smallest (Auburn, Washington, population 6,500). Wadsworth and Conrad make the same point:

> Various estimates of the number of service jobs created by one hundred new manufacturing jobs include:
>
> (1) 1, by Charles Tiebout, in "The Community Income Multipliers," a case-study paper presented at the Joint Conference of the Econometric Society and the American Statistical Association, September, 1956;
>
> (2) 124, by George H. Hildebrand and Arthur Mace, in "The Employment Multiplier in an Expanding Industrial Market: Los Angeles County 1940-1947,"

Review of Economics and Statistics, Volume 32; August, 1950, pp. 241-249.

(3) 44, by Stevens and Wallace, "The Impact of Industrial Development on Howard County, Indiana, 1947-1960," Purdue University Agricultural Experiment Station, Research Bulletin, Number 764, August, 1964.[83]

Ralph Gray adds further evidence:

> The trouble is that the results of these (multiplier) studies have varied widely. The U.S. Chamber of Commerce pamphlet concludes on the basis of 1940-1950 changes in a sample of nine counties (including Hot Spring County, Arkansas) that the multiplier is 1.74 local industry jobs for each new manufacturing job. A leading industrial development magazine has cited this as being about average. It goes on to cite at length the findings of a Dupont research report giving a multiplier of 2.6 for new chemical industry jobs; but it mentions that lower ratios were found in other studies -- 1.55 by a University of Texas study of Denton County and 1.4 by a University of Nebraska study of several towns. The Federal Reserve Bank of Kansas City also found

> a ratio of 1.4 for Wichita. Somewhat lower ratios of 1.25 and 1.01 were found for Los Angeles County and Ajo, Arizona.
>
> The record of low ratios does not even stop at the one-to-one level. The Chamber pamphlet already mentioned cited two academic studies that found ratios of .30 for Fort Royal, Virginia, and .10 for Edmore, Michigan. Also, the Federal Reserve Bank of Boston cites a study of New London, Connecticut, showing a multiplier of only .13. Perhaps the great variety among multipliers explains why the Area Redevelopment Administration recently used a ratio as low as .057 as a conservative estimate of the multiplier effect of additional manufacturing jobs that depended upon a federal loan.[84]

With such a wide variation it is useless to automatically apply a multiplier derived from one area to the study to another. Yet this is frequently done (e.g., compare Rural Industrialization: Case Study of a Tissue Paper Mill in Pickens, Mississippi, and What New Industrial Jobs Mean to a Community).[85]

3. The Economic Research Service Study of the Impact of Job-Growth in Four Areas

The broadest data on the impact of the poor are contained in a recent study by the Economic Research Service of the Department of Agriculture.[86] Four nonmetropolitan growth areas were chosen: northeast Arizona (Apache and Navajo counties), Mississippi Appalachia (Alcorn and Tippah counties), northwest Arkansas Ozarks (Benton and Washington counties), and the Arkansas Delta (Cross, Lee, and St Francis counties). The method used was the plant questionnaire, distributed during winter 1970-1971 to 25 percent of the employees of plants that had either been established since 1964 or significantly expanded since 1965. However, since only twenty-seven of the fifty-six plants agreed to cooperate, and since various problems often made the sampling fraction less than 25 percent, the resulting samples were not strictly representative. Further, only direct impact was measured (i.e., that of jobs provided in the new or expanded plant). The number and impact of jobs indirectly created (through input-output linkages) or induced (through the effects of increased incomes on employment in retail trade, etc.) were not measured. However, despite the limitations, the results are valuable.

First, of the total sample, 26.8 percent of the plant workers previously were poor. However, the range was very great: from 49 percent in Arizona and 47 percent in the Arkansas Delta to 19 percent in Mississippi Appalachia and the Arkansas Ozarks. Besides the problem of sample representativeness, the range seemed to be due to differences in underemployment and previous manufacturing development. The last two areas, having fewer underemployed persons and more previous manufacturing growth, had a work force that was less poor.

The second finding refers to the direct impact of the jobs on the poor employees. Of the 266 previously poor workers, 57 percent were raised out of poverty by 1970. Here again the differences were great, ranging from 36 percent for Arizona to 57 percent for Arkansas Delta and 68 percent and 69 percent for the Ozarks and Appalachian areas. Higher wages and greater employment for other family members seem to lie behind the better showing of the latter two areas.

Third, it is interesting to know whether the jobs are going to women (e.g., apparel) or to men as well. Again there were great differences, with women holding 76 percent of the jobs in Arizona, 47 percent in the Ozarks, 36 percent in Appalachia, and 23 percent in the Delta. In both Arizona and the Arkansas Delta, a second earner appeared necessary to keep the family out of poverty.

Finally, since the local poor are often outcompeted for jobs by inmigrants it is interesting to ask what proportion of the jobs were filled by those who moved into the areas. (Inmigrants are defined here as those who moved, not necessarily for the first time, into the study areas between June 1, 1965 and December 31, 1970. An attempt was made to define the study areas in terms of job-commuting radius. Thus the extent ranged from three counties for the Delta to nine for the Appalachia area.) With these criteria, the percentage of workers who were inmigrants ranged from 10 percent in the Delta to 36 percent in the Ozarks, while Appalachia and Arizona had 18 percent and 29 percent respectively. While several previous studies had found that a majority of jobs went to nonresidents, in this study more than two-thirds of jobs were held by local residents.

4. An Evaluation of Impact Studies

First, most impact studies are essentially short run (i.e., consider changes that occur one year or a few years after the plant started production). But as one study points out, "For many areas, the long-run impact may be of greater importance than the short-run impact, because the long-run impact may be a dynamic one resulting not only from economic growth but also from an increase in the rate of growth. This change in the rate of growth stems from a change in the

economic structure and environment of an area, that is, a change in the mix of industries located in the area and a change in the attractiveness of the area to new people and new enterprise."[87] Some studies, such as those of Nicholls and Tang and of the U.S. Chamber of Commerce[88] consider a longer period. For the long run, attributing all income and employment changes to industrialization is of dubious validity (see the Chamber of Commerce pamphlet mentioned above for a glaring example of this).

Second, often not even all of the short-run effects are considered. Concern with rural poverty may well justify a focus on job creation, but capital and land are also factors of production and are generally affected by rural industry. For example, Moes points out that a year after a bicycle plant had come to Lawrenceburg, Tennessee, "Retail sales in the hardware store were up 10 percent over the previous year; a filling station that pumped 14,000 gallons in March, 1956, was up to 23,000 gallons in April, 1957 . . . . Property values in Lawrenceburg and within a three-mile radius had risen $3.5 million; the values of small farms within ten miles of the city limits were up an estimated 10 percent; savings in Lawrence County banks increased markedly."[89] These distributional effects of rural industrialization--as well as the fiscal impact on the provision of public services--are important, but they are often not measured.

Third, most research concentrates on general impact. Few studies examine the impact on the poor or develop "racial" multipliers (i.e., impact by race). Yet the Abt Associates case study found that blacks were little affected by the industrialization. A much more thorough study by Walker found that regression analysis led to the same conclusion.[90]

Fourth, it must be kept in mind that an impact study is not the same as an adequate cost-benefit study, although that implication seems to often be given by boosters. Costs--especially opportunity costs--must not be ignored (see Hansen).[91]

Fifth, the cost-benefit ratio (or the impact multipliers) will differ according to the size of the impact area. Boundaries relevant for policy purposes should be chosen. For example, if the problem is rural poverty in the multicounty area, jobs in one town held by poor rural residents of a nearby county should not be considered as leakages.

Sixth, multiplier and economic-base studies have been severely and correctly criticized because they often do not deal with interindustry effects of "feedback" from other regions. While this criticism seems justified for studying the growth of SMSAs or larger regions, an impact study of a rural communtiy or county escapes it. For here, interindustry and "feedback" effects are often small or negligible.

5. Conclusion

From the research done so far, we know that the industrialization of southern nonmetropolitan areas has been extensive and that it has not been confined to SMSA fringe areas. But relatively little has been done on the impact of this on the poor. The broadest study so far, done by ERS, contradicts the popular notion that few resident poor are hired and fewer still raised out of poverty. But further confirmation seems needed, since this report contradicts some conclusions of earlier case studies.[92]

CHAPTER V

Economic Growth, Poverty, and Race in the Nonmetropolitan Deep South

James L. Walker

John Kain has argued that "Southern economic development and the elimination of Southern poverty should be the first priority of a national regional policy. Southern poverty--particularly that of the Core and Appalachian South--remains the nation's number one problem."[1] In response to the problems of underemployment and poverty in the nonmetropolitan core or Deep South, the federal government has initiated many programs to stimulate economic growth and development. While it is unclear how effective these programs have been, it is clear that there has been a considerable expansion of nonagricultural employment in the nonmetropolitan South during the 1960-1970 decade. Further, the employment expansion was accompanied by significant declines in the size of the poverty populations. But in the rural South, where poverty and race are complexly interrelated, a question that must be raised is whether the black population has shared equitably in the economic expansion and the resultant reduction in poverty. The exploration of this question is the main purpose of this chapter in which, after a brief review of poverty in the South, declines in black and white poverty in the region's

nonmetropolitan ares are analyzed.

The results of this study indicate that while black poverty declined more rapidly than white poverty during the 1960-1970 decade, the black poor did not share equitably in the economic growth and development of the nonmetropolitan Deep South. While economic growth did facilitate occupational upgradings and increases in earnings within occupations for the poor of both races, and especially for blacks, blacks failed to share equitably in nonagricultural employment expansion. This resulted in the continued massive outmigration of blacks, including many poor blacks, while white outmigration was simultaneously reduced to an insignificant level.

SOUTHERN POVERTY

Poverty occurs disproportionately in the South: the incidence of poverty for southern families is almost twice as high as for families in the rest of the country. While the South contained less than a third of the nation's population in 1959, it had almost one half of the nation's poverty. This proportion has changed little in recent years; in 1972 the South accounted for less than 31 percent of the nation's population but 44 percent of the population in poverty.[2]

Some of the South's disproportionate share of poverty may be attributed to its large nonmetropolitan and rural populations, in which the incidence of poverty is higher than in metropolitan areas. Nationally, less than a third of the

population is nonmetropolitan, but almost 41 percent of the people in poverty live in nonmetropolitan areas. In the South, nearly half of the region's sixty-five million people live in nonmetropolitan areas; the residence of the eleven million southern poor was 55 percent nonmetropolitan in 1972 (see table 1). In 1972, the South contained 49 percent of the nation's nonmetropolitan poor whites and virtually all of the nonmetropolitan poor blacks.[3]

There are more poor whites than poor blacks in the South, but the incidence of poverty is over three times greater among blacks. In 1972, the incidence of poverty for southern blacks was 40 percent, compared to only 12 percent for whites. In each residence category for the South, blacks suffer a higher incidence of poverty than whites, and the situation is especially severe in nonmetropolitan and rural areas. In metropolitan areas, whites and blacks have poverty incidence rates of 8 and 35 percent, respectively, while in the nonmetropolitan South, the rates jump to 16 and 47 percent, respectively.[4] The 1970 census found that the rate of poverty among southern rural nonfarm blacks was 30 percent, while that of rural nonfarm whites was 11 percent. And 59 percent of the southern rural farm blacks and 21 percent of the rural farm whites were living in poverty.[5] Among rural farm families in the Deep South states of Alabama, Arkansas, Georgia, Louisiana, Mississippi, and South Carolina, 60 per-

percent of the blacks and 20 percent of the whites were below the poverty level in 1970.[6] It is clear that the intertwined problems of race and poverty have been, and still are, extremely severe in the rural South, and especially so in the Deep South.[7]

FEDERAL ASSISTANCE AND EMPLOYMENT GROWTH

In an effort to improve the plight of southern rural areas, the federal government--through the Economic Development Administration, the U.S. Department of Agriculture, the Office of Economic Opportunity, the Small Business Administration, and other agencies--has been promoting investment in the economic and social overhead capital of rural communities. While it is unclear how effective these investment programs have been in stimulating economic development, it is clear that manufacturing employment growth in the nonmetropolitan South has been proceeding at a more rapid rate than in earlier periods. Also, it appears that this growth rate is even more rapid in nonmetropolitan than in metropolitan areas.[8] While this economic expansion has not been sufficient to fully absorb the vast labor surpluses of the rural South, it most probably has played an important role in the reduction of poverty.

HAVE BLACKS SHARED EQUITABLY?

Whether the black population in the rural South has shared equitably in the economic expansion and the resultant reduction in poverty is a question that has been considered by

many researchers. For example, Niles Hansen has observed that "the combined effects of underinvestment in Negro education and training and of discrimination are clearly reflected in the South's changing manpower situation between 1950 and 1960. The Southeast and South Central regions together added almost a million net new jobs in manufacturing, yet only a few Negro males found factory employment."[9] Dale Hiestand, in his Discrimination in Employment: An Appraisal of the Research, pointed out that "the allegation by Colberg that the industrial promotion efforts of Southern states largely benefit the white rather than the black population, even when federal assistance is involved, merits investigation."[10]

An obvious way of dealing with this question is to examine the relative rates of reduction of poverty. This was done for a sample of 244 nonmetropolitan counties containing sizeable black populations. The sample counties are located in Alabama, Arkansas, Georgia, Louisiana, Mississippi, and South Carolina, which will be referred to hereafter as the Deep South. Since the official Social Security definition of poverty figures are not available by county for both 1959 and 1969, a comparable proxy must be used. The number of families below $3,000 income approximates quite well the official Social Security poverty figures for 1959.[11] After accounting for the decade's 27 percent rate of inflation, the number of families below $4,000 in 1969 reasonably can be used to approximate the 1969 poverty levels.

Using these proxies as poverty measures for the Deep South, it was estimated that the number of poor black families declined by 35 percent between 1959 and 1969, or from 445,600 families in 1959 to 288,400 families in 1969. This compares very favorably with the 26 percent decline in white poverty, from a base of 361,500 families in 1959 to 267,000 families in 1969. In terms of poverty incidence rates, black poverty declined from 81 percent in 1959 to 56 percent in 1969, or a decline of 25 percentage points. This again compares favorably with a decline of only 12 percentage points for whites, from 32 percent in 1959 to 20 percent in 1969.[12] But before one could conclude that blacks also shared equitably in the South's economic expansion, consideration should be given to the various means by which poverty could have been reduced, and then to how these means were operative with respect to blacks.

MAJOR WAYS POVERTY COULD HAVE BEEN REDUCED

There are at least four major ways that the poverty population could have been reduced; three are directly related to economic growth in the Deep South. In the order that they will be discussed, they are: (1) nonagricultural employment expansion; (2) outmigration to metropolitan areas; (3) occupational upgrading resulting from economic development; and (4) growth-induced earnings increases within occupations in which the working poor are largely concentrated.

Another way that poverty could have been reduced might be through government transfer payments to the poor. But with Social Security benefit payments primarily based on earnings before death or retirement, one would generally require above-poverty-level earnings to generate above-poverty-level payments. Thus this might be considered a savings and insurance program rather than a means to raise families out of poverty. Also, with welfare payments and restrictions on total family income being so low in the Deep South, it would appear that welfare was only a method for alleviating some of the most severe deprivations experienced by the poor and not a method for reducing the poverty population. Hence transfer payments, while they remain an important means by which poverty could be reduced in the future, will not be considered further as a major probable way that poverty was in fact reduced in the Deep South during the 1960-1970 decade.

1. Nonagricultural Employment Gains

The growth of the nonagricultural economy could have reduced poverty by providing employment and income for the unemployed, those displaced from agriculture, and those who would be attracted into the labor market by the possibility of finding employment.[13] The queue theory of the labor market contends that workers are arrayed along a continuum in the order of their desirability to employers. Employers hire their workers from as far up the queue as possible, but as demand for

labor expands relative to the supply of labor, they are forced to lower their hiring standards and hire the more marginal elements of the labor force. The existence of racial discrimination in the provision for human resource development and in the labor market tends to make blacks the most marginal element in the labor force and to place them at the end of the queue. Thus it is suggested that as demand expands and labor markets tighten, the marginal employment gains of blacks will be relatively larger than those of whites.

In the Deep South there was a significant expansion of employment. It is estimated that nonfarm employment grew between 1960 and 1970 at a rate of 21.6 percent, for a gain of over 415,900 jobs. While this was largely offset by a decline of farm jobs, overall employment grew at a rate of 8.2 percent with a gain of almost 189,500 jobs.[14]

While this employment expansion was not as rapid as the natural rate of population increase of 14.4 percent, there are indications that the labor market was tighter during the sixties than in the fifties. Studying almost the same set of counties in the Deep South, Perksy and Kain found that the lack of local employment opportunities resulted in the net outmigration of some 1,438,000 persons between 1950 and 1960.[15] The employment expansion in the 1970s was able to reduce the number of net outmigrants by some 600,000 persons for a decline of roughly 40 percent over the earlier period.

Further, the overall unemployment rate in the Deep South fell from 5.4 percent in 1960 to 4.4 percent in 1970,[16] and was probably even lower during the Vietnam expansion years prior to the national rise in unemployment in 1970.[17]

While the employment expansion did take up some of the slack in the Deep South labor market, the expected employment gains of blacks relative to whites were not realized. In fact, they did not even gain employment in proportion to their representation in the initial population. Even though blacks represented almost 40 percent of the population in 1960, they only captured 16 percent of the nonagricultural employment growth between 1960 and 1970, or only 68,000 out of 429,000 new jobs (see table 2). And it is apparent that this was not an improvement over the 1950-1960 decade when blacks gained 21 percent of the nonagricultural jobs while they represented 43 percent of the 1950 population.[18] Table 2 shows that the black share of job growth in most nonagricultural sectors was less than their 1960 share of sector employment. For example, while blacks made up 29 percent of nonagricultural employees in 1960 (column 6), they only accounted for 16 percent of the employment growth (column 5). This resulted in the black employment share declining to 26 percent in 1970. While there was a deterioration in most employment sectors, the nondurable manufacturing sector was a major exception, providing blacks with 63 percent of the net gain in jobs.

Further insight into the deterioration of most major non-agricultural sectors can be gained from simple regression models of the racial distribution of employment gains. Perksy and Kain suggested the following model in analyzing the limited black employment gains in the Deep South during the 1950s:

$$\Delta N_i{}^{b}{}_{50\text{-}60} = \alpha_0 + \alpha_1 (Pop^{b}/Pop)_{50} \Delta N_{i\,50\text{-}60} + S_j$$

where

$\Delta N_{i\,50\text{-}60}$ = change in sector i employment by county, 1950-1960.

$(Pop^{b}/Pop)_{50}$ = the fraction of the county's population that was black in 1950

S_j = state dummy variables

b = black variable

The model assumes that the change of black employment by county in a given sector depends mainly on the relative local supplies of black and white labor at the beginning of the period and on the county's total change in sector employment. Thus, the location of employment growth is controlled for, allowing one to focus more clearly on the racial distribution of given employment opportunities.

An almost identical model was estimated for the 1960-1970 decade in the Deep South. By comparing the α_1 coefficients between the 1960 model of Persky and Kain and my estimation of the 1970 model, it is generally seen that the non-agricultural sector did not improve in terms of the distri-

bution of jobs in the 1960-1970 decade. In fact, for most sectors the coefficient was smaller in the 1970 model than it was for the 1960 model. The major exceptions were the manufacturing sectors, and especially the nondurable goods sector. These were the primary sectors covered by federal contract compliance and Equal Employment Opportunity Commission activities. While these improvements were significant, they were not sufficient to offset the deterioration of many of the other sectors in the distribution of employment.

Coupling the marginal gains made by blacks in the nonfarm sectors with the continued large declines in black farm employment resulted in a net loss of some 97,000 jobs for blacks in the 1960s while whites gained 287,000 jobs (see table 4). The situation was especially severe for black males who, because of their large farm employment declines and small nonfarm gains were faced with a -19.6 percent decline in total employment. This compares to a 9.9 percent gain for white males. And while black females were not able to offset their loss of farm jobs with nonfarm jobs and suffered a net loss of 400 jobs overall, white females were able to make a net gain of 183,000 jobs.

2. Outmigration

It is apparent that while very little of the reduction of black poverty could be attributed to the feeble gains in nonfarm employment, much of the whites' poverty reduction could have been as a result of their employment gains. The failure of blacks to share with whites in the employment gains was

largely responsible for their continued high levels of net outmigration while white net outmigration was reduced to a negligible level (see table 5). While the net outmigration from the Deep South of blacks fell only marginally, from an estimated 973,000 in the 1950s to 798,000 in the 1960s, white outmigration was largely eliminated, declining from a level of 465,000 in the 1950s to only 38,500 in the 1960s. This left blacks with a 1960-1970 net migration rate of -27.7 percent while for the whites the rate was only -9.9 percent.[19] That this was also generally characteristic of the whole nonmetropolitan South as indicated by Calvin Beale's finding that while the black net outmigration rate was basically unchanged, declining only from -25.2 percent in the 1950s to -23.0 percent in the 1960s, the white net outmigration rate was reduced from -13.2 percent to -0.6 percent.[20] Beale also found that "In general, the areas of the nonmetropolitan South that are inhabited by both major races had substantial gains in nonagricultural employment during the decade, but these gains appear with minor exceptions to have had visible retentive effect only on whites."[21]

Beale explains this phenomenon by arguing that "scattered surveys indicate wide differences in the residential preference of rural southern white and black youth, with a majority of blacks stating a preference for the city, in contrast to whites. In addition, the vast majority of southern blacks have contacts with close family members or friends in

in large cities that provide a ready network of migration auspices and supportive services, both economic and socio-psychological. It may be easier and more sustaining of self-esteem and peer group respect for a young black to move . . . than . . . stay in his rural county."[22] Without discounting the possible role of past migration streams in making current migration easier, an alternative explanation of this phenomenon would focus on the limited opportunities open to blacks compared to whites in the rural South. With the large supplies of white males coming off the farms and the increase in the participation rate of white females, there apparently was not enough pressure on employers to force them to go further down the hiring queue and recruit blacks on a large scale. While both races had to accept low-paying jobs in the rural South, the relative wage differentials between the rural South and the metropolitan North were larger for blacks than for whites.[23] Thus blacks had less incentive than whites to even seek employment in the rural South. It does not seem strange that given the relative opportunities available to rural blacks and whites, the black youth would develop a much greater "preference" for the city. What does seem strange is that some researchers and policy makers are apparently willing to explain away the failure of the blacks to share in the employment gains largely through reference to these preference differences, without exploring more thoroughly the causes for these differences.

At any rate, the failure of blacks to share in the employment expansion and the continued large losses of blacks through outmigration raises the possibility that a significant amount of the reduction in black poverty in the Deep South in fact resulted from the transfer of the poor to metropolitan areas. While there is no direct data on how many of the black outmigrants from the Deep South were actually part of the initial poverty population, one can arrive at a fairly reasonable approximation with the help of several studies of outmigration from the rural South that were based on the 1967 Survey of Economic Opportunity. From the work of Richard Wertheimer, who estimated from regression equations the expected annual earnings gains attributable to migration, it would appear to be a conservative estimate that black migrant families from the rural South gained an average of at least $1000 in annual income by moving to metropolitan areas.[24] And from the findings of Beale, it is apparent that black rural-to urban migrants have an almost identical income distribution as urban blacks of urban origin. Further, they are concentrated in metropolitan areas.[25] This suggests that the metropolitan income-distribution tables for blacks could be used to estimate the 1970 income distribution of black migrants from the Deep South. This reveals that 33.2 percent of the black outmigrants living in metropolitan areas had family income of $5,000 or less.[26] Using an average expected

income differential attributable to outmigration of $1,000 it reasonably can be concluded that at least 33.2 percent of the outmigrants would have had incomes below $4,000 and been in poverty in 1970 had they remained in the Deep South. With 798,400 black outmigrants, this means that the black poverty population in the Deep South was reduced by over 264,000 persons or 57,400 families through outmigration. This is a very minimal estimate, since no allowance has been made for the highly probable induced increase in the poverty incidence rate of the black population if the migrants had remained in the Deep South and competed in local labor markets. Including the induced poverty reductions could easily double the number of poor black families that were eliminated from the Deep South through outmigration.

With the total decline in poor blacks being some 157,000 families, it is estimated that between one third and two thirds of this was as a result of black outmigration. Clearly, black migration was a major cause in the reduction of black poverty.

3. Occupational Upgrading

The third major way that poverty could have been reduced involves economic development. Increased employment opportunities could have induced the working poor to move from unskilled, low-earnings occupations to semiskilled and skilled occupations with above-poverty-level earnings.

It is generally argued that an economic expansion will create tight labor markets, especially for the skilled, and that the shortage among skilled workers will encourage businesses to lower hiring standards and to enlarge internal training programs. This results in underemployed semiskilled and unskilled laborers upgrading their positions to the next highest skill level.[27]

Tobin describes this impact of tight labor markets:

> In a slack labor market, employers can pick and choose, both in recruiting and in promotion. They exaggerate the skill, education, and experience requirements of their jobs. They use diplomas, or color, or personal histories as convenient screening devices. In a tight labor market, they are forced to be realistic, to tailor job specifications to the available supply, and to give on-the-job training. They recruit and train applicants whom they would in slack times consign to low-wage, low-skill, and part-time jobs. 28

It has been hypothesized that blacks will generally improve their occupational position compared to whites in periods of economic expansion. With blacks heavily concentrated in low-skill, low-wage occupations, even small gains in skilled and white-collar occupations could be expected to improve their occupational position relative to whites.[29]

In the Deep South, it is apparent that the hypothesized movement of the working poor from low-earnings occupations to higher-paid occupations has been occurring. Further, it appears that while this has been an important factor in

the black community, it has played only a small role in the white community. From table 6, in which the major census occupational groups are arranged from high to low earnings, it is clear that blacks have made major advances in increasing their percentage distribution in the higher-earnings occupations and reducing their percentage distribution in the lower-earnings occupations. While blacks are still heavily concentrated in the low-wage menial occupations compared to whites, it is evident that they have been improving their occupational status faster than have the whites.

Another way to observe the occupational status and progress of the employed is through a measure of occupation position that was developed by Gary Becker.[30] The index of occupational earnings for men, weighted by the proportion of a group's employment in each occupation. These indexes, one each for black and white by sex, approximate the 1969 money values of each group's occupational distribution. Since blacks and whites are treated as having the same earnings in each occupation in each period, the indexes measure only the variation in occupational distribution of blacks and whites and changes in this distribution. Hence, the larger a group's IOP, the greater is the proportion of the group's employment in the better-paying occupations. The ratio of these two indexes measures the relative occupational position (ROP) of the two groups.[31]

Table 7 shows that all groups in the Deep South improved their average IOP between 1960 and 1970 and that blacks advanced at a more rapid rate than whites. This resulted in blacks improving their ROP compared to whites. For example, black males were able to increase their occupationally expected earnings (IOP) from $3792 in 1960 to $4876 in 1970, while white males only increased their IOP from $6693 in 1960 to $7075 in 1970. This resulted in the male ROP increasing from 56.7 percent in 1960 to 68.9 percent in 1970.

But even with these improvements, the black is still largely concentrated in the low-wage, menial occupations. And while both blacks and whites have lower occupationally expected earnings in the Deep South as compared with metropolitan areas, the differential is generally much larger for blacks. To the extent that a prospective rural-to-urban migrant uses the average occupational distribution of the urbanite (of his race and sex) in forming his expectations as to what he could expect for himself if he migrated, blacks have a far greater incentive to migrate to metropolitan areas. For example, while the black male might expect a 24 percent gain in his occupational status by migrating to a metropolitan area, a white male could anticipate only an 8 percent gain. Furthermore, in terms of ROP, the disparity is still worse in the Deep South than in metropolitan areas. To the

extent that the black community's sense of well-being is a function of their relative economic status as compared to the local white community, blacks have further incentive to leave the Deep South for metropolitan areas.

While the data for the Deep South is basically consistent with the hypothesis that economic development would encourage occupational upgrading of the poor and especially the black poor, several qualifying observations need to be made. First, while economic development was surely an important factor behind the occupational upgradings, it should be pointed out that educational levels are also a major determinant of occupational levels. And in the Deep South, while educational levels of both races increased, blacks improved their educational levels at a more rapid rate than whites. For example, while the median years of education of the black population (age 25 and older) increased from 5.6 to 7.0 years between 1960 and 1970, that for whites increased from 9.4 to 10.7, and thus the relative educational level (black divided by white) increased from 58.9 percent in 1960 to 66.0 percent in 1970.[32] Thus to attribute all of the relative occupation improvement of blacks in the Deep South to economic development would be a misinterpretation of the facts. Second, it should be noted that the inference from these occupational upgradings of the general population has been that the poor were among those who were

upgraded, which is impossible to substantiate among the whites since the poor comprise only 32 percent of the initial white population. But for the poor blacks who made up 81 percent of the initial black population, it appears more likely that the working poor were actually among those who were occupationally upgraded. This, of course, needs to be tempered by the fact that for blacks, the occupational upgrading was accomplished more through reducing the absolute number employed in low-wage occupations than by increasing the absolute number employed in higher earning occupations.

4. Increased Earnings within Occupations

The last major way that poverty could have been reduced involves the impact of economic expansion on the earnings level within the low-skill occupations employing the poor. While economic expansion will generally mean an increase in demand for all classes of labor, the demand for skilled labor can generally be expected to increase at a greater rate. The tightening of the labor market for skilled workers will encourage businesses to upgrade underemployed semi-skilled laborers into higher-skill positions, and thereby reduce the supply of labor in the low-skill occupations. Thus, wages in the low-skill occupations will receive upward pressures from both an increase in the demand and a reduction in the supply of labor. As employment opportunities improve

generally, it will be more difficult for low-wage firms to hold their workforces. The relative reductions of labor supply for these low-wage firms will tend to raise average wage levels within occupations as the relative numbers employed in low-wage firms is reduced and as the wages within these firms are bid up. Also, firms that often provide less than year-around employment will be forced to provide longer-term employment. Since blacks are overrepresented compared to whites in low-wage firms and in firms that provide less than full year-around employment, the relative wage rates and relative annual earnings of blacks to whites could be expected to improve. This would certainly have a favorable impact on the relative rates of poverty reduction.

In the Deep South, the working poor clearly benefited from a significant earnings increase in the unskilled occupations. It is estimated that the median earnings (in 1970 dollars) of nonfarm laborers increased form $1889 in 1960 to $3137 in 1970.[33] These wage increases are consistent with the wage increases of the southern hired farm workers (see table 8) and the income gains of male craftsmen and operatives in the nonmetropolitan South (see table 9, 10, and 11). In addition, the hypothesized improvement of black earnings relative to white earnings did occur. The relative annual wages of hired farm workers improved from 59 percent in 1961 to 73 percent in 1970 and the relative annual income of craftsmen and operatives in the nonmetropolitan

South increased from 51 percent in 1960 to 63 percent in 1970. And for hired farm workers, the improvements were brought about both by an increase in the number of days per years that blacks were able to be employed (relative to whites) and by a small increase in the relative wages per day paid blacks (see table 8). While these do represent significant advances for blacks in the rural South, it is clear that they are still overly concentrated in low-wage firms when compared to whites. Further, to the extent that southern rural blacks use the absolute and relative earnings of metropolitan blacks in forming their expectations of the earnings and equity gains that they could achieve through migration, blacks have a strong continuing incentive to leave the rural South.

CONCLUSIONS

From the foregoing analysis of the major ways that poverty was reduced, it seems clear that the economic expansion in the Deep South made significant inroads into the poverty problem. Many of the poor benefited from the increase in nonagricultural employment opportunities, from the occupational upgradings that occurred, and from the increases in earnings within occupations where the working poor are largely concentrated. Also, it is apparent that the favorable relative rate of decline of black poverty compared to white poverty can be partially explained by the improved relative occupational distributions

and the increased relative wages and earnings within occupations. But little of the decline of black poverty can be attributed to an expansion of black employment in the non-agricultural sector. Further, the failure of blacks to share in the employment expansion resulted in the continued exodus of many blacks from the Deep South. The use of the conservative estimate that one third to two thirds of black poverty reduction occurs through outmigration leaves a more realistic estimate of how much of the black poverty could have resulted from the region's economic growth and development. The black poverty population declined 9 and 22 percent as a result of economic growth and development. Comparing this with the 26 percent decline in white poverty attributable to the economic expansion leads to the conclusion that the black poor did not share equitably in the economic growth and development in the Deep South. In fact, many poor blacks have been forced to leave the rural South because they have not shared the benefits of its recent growth and development.

These findings add support to Kain's assertion that "every effort must be made to insure that the Southern Negro obtains a fair share of the expanding employment opportunities. There exists a large body of evidence that exclusionary and discriminatory hiring practices are rampant in Southern industry. The quid pro quo for a national program of Southern economic development must be a change in these traditional

labor market practices which have kept Negroes in the lowest paying and least desirable jobs."[34]

Finally, while this study does not necessarily support the contention that southern rural poverty is better resolved within the context of southern rural development rather than through outmigration to metropolitan areas, it does support the belief that blacks have not had an equal opportunity to participate in the federally subsidized rural renaissance. Clearly, the failure of blacks to share equitably in nonagricultural employment growth in the nonmetropolitan South merits further investigation and concern.

TABLE 1

Distribution of Persons Below the Poverty Level in 1959, 1969, and 1972 by Region and Type of Residence

Region and Type of Residence	All Races			White			Negro		
	1959	1969	1972	1959	1969	1972	1959	1969	1972
South (number in thousands)	19,116	11,163	10,928	11,477	6,166	5,973	7,505	4,928	4,802
Distribution by Percent in									
Metropolitan Areas	32.5	36.2	45.3	30.0	37.1	40.1	36.6	34.7	51.4
Central cities	20.0	22.4	29.6	16.7	20.5	20.5	25.4	24.8	40.8
Suburban rings	12.5	13.8	15.7	13.3	16.6	19.6	11.2	9.9	10.6
Nonmetropolitan Areas	67.5	63.8	54.7	70.0	62.9	59.9	63.4	65.3	48.6
North and West (number in thousands)	19,650	13,125	13,532	16,859	10,503	10,230	2,422	2,285	2,908
Distribution by Percent in									
Metropolitan Areas	55.0	63.1	70.6	49.7	56.3	63.8	93.0	93.8	95.7
Central cities	33.6	40.1	44.0	27.3	31.0	33.0	78.7	80.7	82.6
Suburban areas	21.3	23.0	26.7	22.4	25.2	30.8	14.2	13.0	13.1
Nonmetropolitan Areas	45.0	36.9	29.4	50.3	43.7	36.2	7.0	6.3	4.3

Source

U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 76 (Washington, D.C.: Government Printing Office, December, 1970), p.5; and U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 91 (Washington, D.C.: Government Printing Office, December, 1973), pp. 42-44.

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TABLE 2

Black Employment by Major Industry in the Deep South

Industry	(1) 1960 Black Employment	(2) 1970 Black Employment	(3) Black Change (1960-1970)	(4) Total Change (1960-1970)	(5) ΔB/ΔT	(6) (B/T) 1960	(7) (B/T) 1970
Total Employment	787,300	690,100	-97,100	189,500	- .51	.34	.28
Agricultural*	244,600	80,000	-164,600	-239,800	(.69)	.57	.43
Nonagricultural	542,600	610,000	67,500	429,200	.16	.29	.26
Mining	2,100	3,700	1,000	7,000	.23	.07	.10
Construction	41,500	46,500	4,900	27,900	.18	.27	.26
Manufacturing	121,600	194,800	73,200	172,700	.42	.21	.26
Durable	74,000	92,500	18,500	85,900	.22	.39	.34
Nondurable	47,600	102,300	54,700	86,800	.63	.12	.21
Transportation	25,800	30,500	4,700	26,500	.17	.23	.22
Wholesale & Retail	71,900	71,800	-100	57,400	-.002	.19	.17
Finance	3,600	4,700	1,100	18,200	.06	.07	.07
Business Repair	6,000	7,300	1,300	11,300	.12	.16	.15
Personal Service	194,300	126,800	-67,500	-64,100	(1.05)	.78	.68
Entertainment	3,300	3,000	- 300	500	- .55	.30	.26
Professional	66,100	109,900	43,800	153,200	.29	.30	.29
Public Administration	6,300	11,000	4,700	18,700	.25	.08	.12

*Agriculture includes employment in forestry and fisheries.

Source:

Calculated From U.S. Bureau of the Census, Census of the Population, 1960 and 1970, General Social and Economic Characteristics, PC(1)-C2, C5, C12, C20, C26 and C42, Deep South states, (Washington, D.C.: Government Printing Office, 1963 and 1972), tables 85 and 88 (1960) and tables 123 and 127 (1970).

Table 3

Comparison of the Employment Experience
of the 1960s to the 1950s in the Deep South

1970 Model: $\Delta N^{b}_{i\,60-70} = \alpha_0 + \alpha_1 (Pop^{b}/Pop)_{60} \Delta N_{i\,60-70} + S_j +$

1960 Model: $\Delta N^{b}_{i\,50-60} = \alpha_0 + \alpha_1 (Pop^{b}/Pop)_{50} \Delta N_{i\,50-60} + S_j$

	1970, 244 counties		1960, 249 counties++	
	α_1	R^2	α_1	R^2
ΔNonagricultural	.55* (.03)	.55	.58*	.70
ΔMining	.34* (.03)	.38	.38*	.35
ΔConstruction	.71* (.05)	.48	.76*	.65
ΔManufacturing	.87* (.06)	.54	.40*	.36
ΔDurable	.79* (.03)	.74		
ΔNondurable	.84* (.08)	.38		
ΔTransportation	.40* (.04)	.35	.49*	.36
ΔWholesale and Retail	.35* (.04)	.23	.54*	.59
ΔPersonal Services	1.83* (.08)	.68	1.58*	.84
ΔFinance	.18* (.03)	.19		
ΔBusiness Repair	.35* (.04)	.26	.56*	.69
ΔProfessional	.66* (.03)	.73		
ΔPublic	.32* (.04)	.22		

Table 3

-continued-

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* Significantly different from 0 at the .01 level.

( ) Standard errors in parenthesis.

\+ The 1960 model had a dummy variable for each state. Since Louisiana was the only statistically significant dummy, all other state dummies were dropped in the 1970 model.

++ Estimated by Joseph Persky and John Kain, "Migration, Employment and Race in the Deep South," Southern Economic Journal (January 1970), pp. 273-274.

Table 4

Employment Changes in the Deep South (thousands)

	Black			White		
	1960	1970	Change	1960	1970	Change
Total Employment Male and Female	789	690	-97 (-12.7%)	1,528	1,815	287 (18.8%)
Farm Employment Male and Female	227	73	-154 (-67.7%)	161	88	-73 (-45.3%)
Nonfarm Employment Male and Female	561	617	56 (10.1%)	1,367	1,726	360 (26.3%)
Total Employment Male	494	397	-97 (-19.6%)	1,050	1,154	104 (9.9%)
Farm Employment Male	186	64	-122 (-65.6%)	151	83	-69 (-45.3%)
Nonfarm Employment Male	308	333	25 (8.2%)	899	1,071	171 (19.1%)
Total Employment Female	294	293	-0.4 (-0.1%)	478	661	183 (38.2%)
Farm Employment Female	41	9	-32 (-77.5%)	10	6	-4 (-43.4%)
Nonfarm Employment Female	253	284	31 (12.3%)	468	655	187 (40.0%)

SOURCE:

Calculated from U.S. Bureau of the Census, Census of the Population, 1960 and 1970, General Social and Economic Characteristics, PC(1)-C2, C5, C12, C20, C26, and C42, Deep South states, (Washington, D. C.: U.S. Government Printing Office, 1963 and 1972), tables 84 and 88 (1960) and tables 122 and 127 (1970).

TABLE 5

Population and Migration in the Deep South

	Population 1960	Population 1970	Population Change	Percent Population Change	Net Migration	Percent Net Migration
BLACK	2,884,357	2,599,017	-285,240	-9.9	-798,418	-27.7
WHITE	4,419,529	4,919,188	499,659	11.3	- 38.467	- 0.9
TOTAL	7,303,886	7,518,205	214,319	2.9	-836,884	-11.5
Percent Black Population	39.5	34.6				

SOURCE: Calculated from U.S. Bureau of the Census, Census of the Population, 1960 and 1970, General Social and Economic Characteristics, PC(1)-C2, C5, C12, C20, C26 and C42, Deep South States, (Washington, D.C.: Government Printing Office, 1963 and 1972), tables 82 and 87 (1960) and tables 119 and 125 (1970); and U.S. Bureau of the Census, "Population Estimates and Projections, Components of Population Change by County: 1960 and 1970," Current Population Reports, Series P-25, No. 461 (Washington, D.C.: Government Printing Office, June, 1971), pp. 1-75.

TABLE 6

Occupational Distributions by Race in the Deep South

Occupation and Sex	Black		White	
Men and Women	1960 Distribution (percent)	1970 Distribution (percent)	1960 Distribution (percent)	1970 Distribution (percent)
Professional & Technical	4.3	6.7	9.5	12.1
Managerr, Officials, Proprietors	1.0	1.6	10.4	9.6
Craftsmen, Foremen	4.6	8.5	14.5	16.4
Sales	0.8	1.0	8.3	7.2
Clerical	0.9	3.4	11.3	14.6
Operatives	16.0	26.2	25.4	23.3
Service	10.0	15.1	5.6	7.4
Farmers, Farm Managers	10.6	2.0	7.7	3.1
Laborers (except Farm)	13.8	12.6	3.6	3.9
Farm Laborers, Foremen	18.2	8.6	2.9	1.7
Private Household Workers	19.8	14.2	.9	.6
Men				
Professional & Technical	2.3	3.4	7.6	10.4
Managers, Officials, Proprietors	1.0	2.0	12.9	12.6
Craftsmen	7.3	14.0	20.6	24.5
Sales	0.7	0.8	7.3	6.9
Clerical	0.8	2.4	5.3	6.0
Operatives	21.5	30.4	23.4	22.1
Service	6.6	9.7	3.5	4.9
Farmers, Farm Managers	15.1	3.5	10.7	4.6
Laborers (except Farm)	21.6	20.7	5.1	5 -
Farm Laborers, Foremen	22.6	12.6	3.7	6
Private Household Workers	0.6	0.6	0.0	0.1

TABLE 6 (continued)

Women				
Professional & Technical	7.7	11.3	13.7	15.1
Managers, Officials, Proprietors	0.9	1.2	4.9	4.4
Craftsmen	0.2	1.1	1.1	2.2
Sales	0.9	1.4	10.4	7.8
Clerical	1.0	4.8	24.5	29.7
Operatives	6.7	20.6	29.7	25.4
Service	15.8	22.3	10.2	11.9
Farmers, Farm Managers	3.1	0.0	1.0	0.5
Laborers (except Farm)	0.7	1.6	0.5	1.2
Farm Laborers, Foremen	10.8	3.1	1.1	0.3
Private Household Workers	52.2	32.7	2.9	1.5

SOURCE

Calculated from U.S. Bureau of the Census, Census of the Population, 1960 and 1970, General Social and Economic Characteristics, PC(1)-C2, C5, C12, C20, C26 and C42, Deep South States (Washington, D.C.: Government Printing Office, 1963 and 1972), tables 84 and 88 (1960) and tables 122 and 127 (1970).

TABLE 7

Indexes of Occupational Position for the Deep South, the Metropolitan U.S., and Selected Southern Cities

Sex and Region	1970			1960		
	Black IOP* (dollars) (1)	White IOP (dollars) (2)	ROP* (percent) (1)/(2)	Black IOP* (dollars) (4)	White IOP* (dollars) (5)	ROP* (percent) (4)/(5)
Deep South						
Men and Women	4,544	6,984	65.1	3,303	6,700	49.3
Men	4,876	7,075	68.9	3,792	6,693	56.7
Women	4,139	6,849	60.4	2,478	6,706	37.0
Metropolitan U.S.						
Men	6,005	7,658	78.4	5,271	7,388	71.4
Women	5,239	6,867	76.3	3,827	6,795	56.3
Atlanta, Georgia						
Men and Women	5,381	7,647	70.4			
Men	5,802	7,905	73.4			
Women	5,011	7,229	69.3			
Jackson, Mississippi						
Men and Women	5,066	7,645	66.3			
Men	5,552	7,894	70.3			
Women	4,526	7,270	60.3			
Birmingham, Alabama						
Men and Women	5,056	7,411	68.4			
Men	5,463	7,554	72.3			
Women	4,538	7,151	63.5			

*IOP is index of occupational position;
*ROP is relative occupational position.

SOURCE : Calculated from U.S. Bureau of the Census, Census of the Population, 1960, 1970, General Social and Economic Characteristics, Deep South states, (1963, 1972); and "Consumer Income," Current Population Reports, Series P-60, No. 75 (December 1970), p. 113.

Table 8
Average Days Worked and Wages Earned at Farm Wage Work*

	Average Number of Days Worked on Farms	Average Farm Wages Per Day	Average Farm Wages Per Year
South, 1961	120	$ 5.15	$ 617
Black	107	4.40	472
White	135	5.90	799
Black as a percentage of White	79%	75%	59%
South, 1970	133	$ 10.25	$ 1,363
Black	130	8.85	1,151
White	137	11.50	1,579
Black as a percentage of White	95%	77%	73%

*For persons who did 25 days or more of farm wage work annually.

Source: U.S. Department of Agriculture, The Hired Farm Working Force of 1961 (and 1970), Agricultural Economics Reports No. 36 (and 201), p. 43 (and p. 99).

Table 9
Craftsmen and Operatives: Median Annual Income of Husband by Region and Race
(In 1969 Dollars)

Area	1960 (dollars)		1966 (dollars)		1970 (dollars)	
	White	Nonwhite	White	Nonwhite	White	Nonwhite
Total United States	6,408	4,213	6,998	5,032	8,025	5,979
Total South	5,546	3,054	6,114	3,842	7,070	4,758
In metropolitan South	6,266	3,551	6,752	4,275	7,830	5,525
Central cities	5,954	3,620	6,251	4,270	7,152	5,427
Outside central cities	6,491	*	7,065	*	8,198	5,778
Outside metropolitan South	4,730	2,394	5,464	3,089	6,411	4,012
Urban	5,198	2,609	5,833	2,943	6,546	4,099
Rural	4,478	2,224	5,262	3,188	6,373	3,977
Total Non-South	6,616	5,565	7,468	6,094	8,402	7,242
In metropolitan non-South	6,838	5,546	7,874	6,056	8,806	7,286
Central cities	6,603	5,495	7,126	5,958	8,341	7,117
Outside central cities	7,033	5,773	8,227	6,430	9,063	7,759
Outside metropolitan non-South	6,068	*	6,711	*	7,616	*
Urban	6,217	*	6,966	*	7,775	*
Rural	5,917	*	6,443	*	7,492	*

* Base less than 75,000

SOURCE:
U.S. Bureau of the Census, "Occupations and Earnings of Family Heads in 1969, 1965, and 1959," Current Population Reports, Series P-60, No. 73 (Washington, D.C.: U.S. Government Printing Office, September 1970), p. 11.

TABLE 10

Relation of Nonwhite to White Median Incomes, Craftsmen and Operatives, 1960-1966

Area	Ratio (Percent) Nonwhite/White			Change, 1960-1966			
				White		Nonwhite	
	1960	1966	1970	($)	(%)	($)	(%)
Total United States	66	72	75	590	9	819	19
Total South	55	63	67	568	10	788	26
In metropolitan South	57	63	71	486	8	724	20
Central Cities	61	68	76	297	5	650	18
Outside central cities	*	*	70	574	9	*	*
Outside metropolitan South	51	57	63	734	16	695	29
Urban	50	50	63	635	12	334	13
Rural	50	61	62	784	18	964	43
Total Non-South	84	82	86	852	13	529	10
In metropolitan non-South	81	77	83	1,036	15	510	9
Central cities	80	83	83	523	8	463	8
Outside central cities	82	78	83	1,194	17	657	11
Outside metropolitan non-South	*	*	*	643	11	*	*
Urban	*	*	*	749	12	*	*
Rural	*	*	*	526	9	*	*

*Base less than 75,000.

SOURCE

U.S. Bureau of the Census, "Occupations and Earnings of Family Heads in 1969, 1965, and 1959." Current Population Reports, Series P-60, No. 73, (Washington, D.C.: Government Printing Office, September 1970), p. 11.

Table 11

Changes in Median Incomes for Craftsmen and Operatives
1966-1970 and 1960-1970

Area	Change, 1966-1970				Change, 1960-1970			
	White		Nonwhite		White		Nonwhite	
	($)	(%)	($)	(%)	($)	(%)	($)	(%)
Total United States	1,027	15	947	19	1,617	25	1,766	42
Total South	956	16	916	24	1,524	28	1,704	56
In metropolitan South	1,078	16	1,250	29	1,564	25	1,974	56
Central Cities	901	14	1,157	27	1,198	20	1,807	50
Outside central cities	1,133	16	*	*	1,707	26	*	*
Outside metropolitan South	947	17	923	30	1,681	36	1,618	68
Urban	713	12	1,156	39	1,348	26	1,490	57
Rural	1,111	21	789	25	1,893	42	1,755	59
Total Non-South	934	13	1,148	19	1,786	27	1,677	30
In metropolitan non-South	932	12	1,230	20	1,968	29	1,740	31
Central cities	1,215	17	1,159	21	1,738	26	1,622	31
Outside central cities	836	10	1,329	17	2,030	29	1,986	30
Outside metropolitan non-South	905	14	*	*	1,548	26	*	*
Urban	809	12	*	*	1,558	25	*	*
Rural	1,049	16	*	*	1,575	27	*	*

* Base less than 75,000

SOURCE:

U.S. Bureau of the Census, "Occupations and Earnings of Family Heads in 1969, 1965, and 1959," Current Population Reports, Series P-60, No. 73 (Washington, D. C.: U.S. Government Printing Office, September 1970), p. 11.

CHAPTER VI

GROWTH CENTERS, HUMAN RESOURCES AND RURAL DEVELOPMENT

Niles M. Hansen*

INTRODUCTION

This chapter is a critique of the growth-center strategies that have been developed to promote rural development within the context of the Appalachian Regional Development Act of 1965 and the Public Works and Economic Development Act of 1965. Growth-center strategies have been instituted in numerous industrial countries during the past two decades. They have been designed to mainly promote the development of lagging regions by concentrating investment geographically so as to reap scale and agglomeration economies. In addition, growth centers also have been conceived as points of attraction for migrants who otherwise would go to large, congested urban areas. To date these strategies have not been notably successful, primarily because they have suffered from a tendency toward proliferation of a large number of relatively small centers. Moreover, even where a few large centers have been selected, inadequate funding has been a problem.

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Although there is growing realization that a viable growth-center strategy demands greater selectivity in choice of centers, it still is uncertain whether the spread effects from induced growth centers can really lift income and employment opportunity levels in lagging or declining rural areas to levels comparable to those in more advanced regions. Indeed, it is possible that the public-works bias that generally accompanies growth-center policies has done a disservice by shifting attention away from the critical health, education, and social problems that plague underdeveloped regions. Preoccupation with spread effects also may hinder efforts to explore the opportunities that growth centers in intermediate areas (that is, viable growth centers that are neither merely relatively bright spots in lagging areas nor large congested cities) offer to migrants from lagging regions.

Growth-center theory in its present state does not provide specific criteria for determining the location of relevant urban centers, how big they should be, or what kinds of investments should be placed in them. Nevertheless, growth-center analysis implicitly or explicitly involves deliberate policies; otherwise one is left with merely a description of the spatial distribution and growth of population and economic activity.

Although no definitive growth-center strategies have been worked out within the context of the regional develop-

ment programs now active in this country, they have utilized the growth-center concept in their operations. These will now be considered in some detail.

THE APPALACHIAN REGIONAL COMMISSION

In contrast to the wide scattering of public investments that characterized earlier efforts to aid depressed areas, the Appalachian Regional Development Act specified that "the public investments made in the region under this Act shall be concentrated in areas where there is the greatest potential for future growth, and where the expected return on public dollars will be the greatest." At the outset of the Appalachian program there was strong support in some quarters of the Appalachian Regional Commission to work with a relatively few major urban centers in response to this stipulation. However, states such as Kentucky---which represented to many the plight that the act was to ameliorate----objected that they would be left out of a growth-center approach that was built only on a few Standard Metropolitan Statistical Areas. In consequence, the determination of growth centers was given to the various states.

Within each of the sixty development districts (the number has since grown slightly) into which the region was divided the states attempted to identify areas where future economic growth would probably occur. In this process a distinction was made between a growth center, a growth area,

and the surrounding hinterland:

> By a 'growth center' or 'centers' is meant a complex consisting of one or more communities or places which, taken together, provide or are likely to provide, a range of cultural, social, employment, trade and service functions for itself and its associated rural hinterland. Though a center may not be fully developed to provide all these functions, it should provide, or potentially provide, some elements of each, and presently provide a sufficient range and magnitude of these functions to be readily identifiable as the logical location for many specialized services to people in the surrounding hinterland. A 'growth area' is an extension of the growth center itself. It is the adjoining area likely to experience residential and employment growth because of proximity to the center and growth area for services and employment. The hinterlands are surrounding rural areas which rely upon the growth center and growth area for services and employment. The hinterlands contribute resources and manpower to the overall district economy.[1]

Among the key factors to be considered in analyzing the relationship between centers and hinterlands were commuting patterns, wholesale trade services, education and cultural services, professional services, interfirm and interindustry trade, government services, natural resources and topography, and transportation networks. The definitions of growth centers and growth areas are based on the performance of certain functions---there is no reference made to growth or to how the performance of the functions mentioned gives a center or area growth potential.

The Appalachian Regional Commission attempts to concentrate appropriate investments in designated growth areas, though human resource investment may be made in the hinterlands to enable the rural population to take advantage of

the opportunities expected to develop in the growth areas. Although the states have followed diverse procedures in designating growth centers, the ARC has classified them into three types: regional centers, primary centers and secondary centers.

> Regional Centers are important metropolitan centers providing specialized services and employment opportunities that extend well beyond the boundaries of the district in which they are located. Investments made in these centers are mainly 'region-serving', i.e., they help improve services and employment prospects for a large area of the Appalachian Region embracing several state planning districts.
>
> Primary Centers are communities or a complex of communities where preliminary analyses indicate a major portion of the future employment base of a district is likely to be located. Investments in these centers will develop their competitive advantages by providing the public facilities and services needed to make the area attractive to increased private investment and growth.
>
> Secondary Centers are communities from which it is necessary to provide services to a large surrounding rural hinterland if isolated populations are to be given the skills and training they need to compete for opportunities wherever they choose to live and work.[2]

In practice, Appalachian growth-center investments have been relatively concentrated. During fiscal years 1965-1969 the Appalachian Regional Commission placed about 40 percent of its nonhighway investment in rural hinterlands. These expenditures were primarily for health and education. The other 60 percent was placed in growth areas. However, about 75 percent of the growth-center investments were concentrated in thirty of the seventy-eight regional and primary centers.[3] In Northern Appalachia relatively great emphasis has been

put on growth areas as service centers and on their potential for developing employment on principal transportation routes. In central Appalachia trade and service functions, proximity to the Appalachian Development Highway System, and plant site availability have been given particular attention. Recent population and employment growth have been emphasized in southern Appalachia, while the highlands have emphasized service functions, especially in relation to tourism and recreation.

Although large absolute expenditures have been made in some of the region's bigger cities, the highest proportion of the Commission's obligations has gone to growth areas in the 10,000 to 250,000 range. These areas account for 75.3 percent of all growth-area obligations, compared to 15.6 percent for areas with populations over 250,000 and 9.0 percent for areas with fewer than 10,000 inhabitants. It is the policy of the commission to invest more in per capita terms in communities of 250,000 or less, than in larger cities, because the impact of program funds is likely to be greater in these communities. Moreover, the most rapid growth in Appalachia is occurring in communities in the 10,000-50,000 population range, rather than in the larger cities or rural areas. Between 1960 and 1966, communities in the 10,000-50,000 range accounted for 40 percent of Appalachia's population growth even though they had only 24 percent of the region's population.[4]

In summary, then, the distribution of growth-center investments has been more concentrated than might have been expected from a policy that would give each of sixty districts at least one growth center, and some districts more. On the other hand, even though the designation of growth center has little economic basis in many cases, it may well have political and morale value. In any event, the decision to concentrate investment in human resources in the hinterlands and other investments in growth centers and growth areas was well-taken. It should be noted, however, that people in some of the nominal growth areas that are in fact hinterlands to more viable growth centers might benefit more from improvements in health and education facilities than from growth-oriented investments that are likely to be ineffective. Finally, the Appalachian Development Highway Program provides links to growing metropolitan areas outside of the region (for example, Atlanta, Cincinnati, Lexington, Nashville, Harrisburg, and Piedmont Crescent cities in the Carolinas), but these links have primarily been viewed in terms of commuting opportunities for Appalachian people living near the fringe of the region, or in terms of markets for Appalachian firms. In the future a more systematic effort might be made to encourage and aid migration to growth centers outside of but still near to Appalachia.

THE ECONOMIC DEVELOPMENT ADMINISTRATION

Implementation of the general aims of the Public Works and Economic Development Act of 1965 is the responsibility of the Economic Development Administration. EDA's principal task is to provide development aid to "redevelopment areas", that is, counties, labor areas, Indian reservations, or certain parts of larger municipalities that are designated on the basis of criteria that reflect chronic economic distress. High unemployment and low income are the main criteria.

Another kind of geographic entity eligible for EDA assistance is the multicounty economic development district. Individual redevelopment areas often lack efficient resources to provide a solid base for their development. However, because of economic interdependencies among adjacent areas, successful development on a larger scale may be promoted by grouping together economically distressed areas and economically healthy areas. EDA has therefore encouraged groups of counties---usually five to fifteen in number---to pool their resources for effective economic planning and development.

Each economic development district must contain one economic development center (growth center). The center must be a city or an area with sufficient population, resources, public facilities, industry and commercial services to insure that its development can become relatively self-sustaining.

The growth of the development center is then expected

to carry over into the redevelopment areas within the district. Cities or contiguous groups of incorporated areas outside the redevelopment area may be designated as economic development centers if they have a population of 250,000 or less. Once designated, development centers are eligible for EDA assistance on the same basis as redevelopment areas. It may also be noted that EDA distinguishes between economic development centers and redevelopment centers; the latter lie within redevelopment areas whereas the former do not.

The development center is expected to provide an economically efficient marketing and service center for surrounding counties, both by providing job opportunities for depressed area residents who could commute to jobs, and by encouraging those rural area residents who do migrate to move to the center. This approach implies that job opportunities can be easily induced because growth factors are already present even though the community may be located in a low-income area. It is hoped that migration flows can be channeled to the growth centers through a combination of forces including jobs, schools, transportation systems, social amenities, and improved equal opportunity programs. The program can also be linked with parallel programs for resettlement assistance and manpower training and development to assist the rural migrant to adjust to an urban employment environment.

How do the realities of EDA's development policy com-

pare with the strategy just outlined? First, while a development-center strategy implies concentrating projects in a relatively few locations, EDA simply does not have the funds to create the many external economies that will be needed if rapid, self-sustained growth is to be induced or reenforced in development centers. Moreover, the growth centers that have been designated by EDA are generally much smaller than the 50,000 population level that Brian Berry finds to be a minimum for a city to have a positive influence on its surrounding hinterland.[5] As of March 31, 1969, there were 113 designated Economic Development Districts with 122 development centers (87 economic development centers and 35 redevelopment centers). Only 18 of the development centers had populations greater than 50,000 and only five had populations greater than 100,000. Thirty-two of the centers had fewer than 10,000 persons. Moreover, between 1950 and 1960 over 50 percent of the development centers had population growth below the national average, and 27 centers had experienced population declines.[6]

The approach taken by EDA presents two major problems. First, it leaves out of consideration areas that are neither congested urban agglomerations nor towns and small cities that are part of or in close proximity to lagging areas. This no man's land---in terms of policy considerations---has growth centers that probably can absorb more migrants more efficiently than the EDA growth centers, especially if

they too benefited from federal aid aimed at helping migrants from lagging areas to find employment. Of course, it might be argued that rapidly growing centers obviously have no need for federal subsidies. This would be true if one were only concerned with the rapidly growing center and its own population. However, the relationship of concern here is that of centers of rapid growth to the people of lagging regions. If a federal subsidy can accelerate growth in a center that is already rapidly growing, and if this subsidy is made conditional on providing employment opportunities for residents of lagging areas, then it might well be more efficient for EDA to tie into the growing environment than to attempt to create growth in a relatively stagnant area by putting in water or sewer lines.

Second, it is not clear whether the public works projects in which EDA is primarily involved, chiefly infrastructure in the narrow sense, will really lead to a rational migration policy. If the unemployment and welfare difficulties of rural migrants in large metropolitan areas are largely a function of lack of job skills and education, as EDA correctly maintains, why should the migration of these people to smaller growth centers not pose similar problems? This is the very heart of the problem of helping residents of depressed areas.

INVESTMENT IN HUMAN RESOURCES

One of the major developments in economics during the 1960s was the immense attention devoted to the significance of investment in human resources, or as some would have it, human capital. Indeed, it now seems almost incredible that at the outset of the decade so little work had been done in this field. It now is apparent that among the factors that contribute to economic growth the quality of the human input ranks very high. Conversely, one of the principal factors retarding the development of lagging regions is a relative deficiency in human resource development. The lack is particularly evident in areas that have not experienced economic development, as contrasted with declining industrial areas in need of conversion of economic activities and readaptation of the labor force. I have developed these points at considerable length elsewhere.[7]

The disadvantages that lagging areas encounter because of deficiencies in the health, education, and training of the labor force are familiar. However, lack of investment in human resources also has adverse effects on the political and business leadership of these areas. Although especially vigorous political and business leadership is needed if improvements are to be made in social and economic problems, "each of the essential elements in the leadership-technical-expert pattern tend to be relatively weak in distressed areas."[8] The political leadership "is often inbred, weak and factionalized to the point of near paralysis. A dearth of alternative opportunities combined with decades of selective

outmigration have removed young, dedicated, well-educated, and well-motivated men and women whose views extend beyond limited local horizons". Entrepreneurship in lagging areas "has been diluted over the years by the dissolution or relocation of stronger local firms that, whatever their faults in 'milking' their business and community, nevertheless retained strong local ties and supplied civic direction at critical junctures". The managers of branch plants of new firms attracted to these areas usually have brief tenure or are marginal operators dependent on the favor of local politicians. In either case the newcomers have little political impact, and they frequently endeavor to retain their ties with other areas of the country. Finally, technicians employed in lagging areas "are often underpaid, substandard professionals more akin in quality and outlook to local civil servants than to professional staff found in metropolitan communities. The occasional capable elected official finds himself seriously handicapped by the absence of technicians qualified to seek out federal and private outside capital and to design and implement effective programs."[9]

In many cases inadequate investment in human resources has occurred not only because of inadequate local funds but also because available funds have been squandered on attempts to attract industry. Instead of building better schools and using public amenities to attract firms, there has been a pronounced tendency to extend financial inducements directly to firms and to let the schools wait. What Ralph Widner has termed "the era of chasing smokestacks" began with an effusion of

brochures representing more or less sophisticated versions of boosterism. However, as communities and states began to outbid one another some 14,000 industrial development organizations came into being to compete for 500 to 750 new plant locations per year. In the scramble to attract industry many communities even went so far as to grant tax moratoria to new firms, thereby losing the principal gain that industrial development was supposed to bring. Thus, instead of improving community services, a burden of services to the new plant had to be assumed without any financial benefit from the bebeficiary. Moreover, the kinds of firms attracted tended to be labor-intensive (often employing mostly women), slow-growing industries, paying low wages. In some cases they would also pull out when another community offered a more favorable subsidy.[10] That the most fundamental problem of lagging areas is underinvestment in human resources is perhaps best indicated by the high rate of return migration that occurs when new plants locate in these places. As one study of this phenomenon concludes, "More local people could be at work, at the expense of immigrants, if they had had the necessary minimum education or training. . . That more were not hired brings up some pointed questions about education and skills in general."[11]

Realization of the dangers in trying to subsidize footloose and often marginal firms still has not overcome reluctance to upgrade human resources in many places. Because of the selective nature of outmigration many communities know that better health facilities and schools will only lead to an accelerated exodus of young people. There is something to be said for the people

in relatively poor regions not wanting to see the payoff from their investment in mobile human beings go to relatively prosperous areas. Under these conditions poor regions are justified in asking the nation as a whole to support investment in their people, although public works and business-oriented programs so favored in regional development legislation are difficult to justify because of better alternatives in regions with greater external economies.

INTERMEDIATE-SIZED CITIES AS GROWTH CENTERS

Even though the prospect is not bright, advocates of rural development still claim that every effort should be made to give everyone a job where they now live because migration to big cities results in greater social costs than those that would be involved in implementing their proposals. This raises two questions. First, are big cities really too big? And second, are rural areas and small towns on the one hand and big cities on the other the only alternatives? On the first question it is quite likely that the rural-development proponents are correct. However, on the second question they are wrong because they ignore job opportunities in intermediate-sized cities. (Some acknowledge that there may have to be some migration from no longer viable areas to towns, but they are usually quite conservative on the size of the town, as EDA growth center policy has illustrated.) These propositions will now be considered in more detail.

The question of whether or not big cities in the United States are too big cannot be answered. I have considered both sides of this issue elsewhere[12] and suggested that they probably are too big in terms of alternatives available to individuals and firms in intermediate-sized cities. It may be that the difficulties of the big cities are not so much inherent in their size as in their structure, particularly where it is a question of a bifurcation between blacks in the central city and the white suburbs. Indeed, this position is widely held among the supporters of the big cities. In this event there are two fundamental solutions to the problems of the cities: break down the barriers imposed on the black population by discrimination and pump more money into the cities to make them more habitable.

But these arguments are not convincing. In the first place nations all over the world are finding that their big cities are too big and an ever-increasing number of urban policies are aimed at checking their growth. While it is obvious that there are structural problems in American cities, this should not be an excuse for evading the difficulties of sheer size and density. Moreover, to the extent that structural problems exist, they would be easier to deal with if a migration policy would encourage migrants to locate in places other than the big cities. Finally, the argument that big cities can be saved by means of huge doses of federal investment is not in itself appealing; it is the same argument used by the proponents of rural areas and the small towns to save many of them from a natural death; and no doubt eastern Kentucky, south Texas and the Indian reservations could be made into very attractive places for people

and industry if enough money were pumped in. The real question must be posed in terms of spatial opportunity cost: Are there better alternatives in other places? The big cities and the small towns and rural areas obviously need and will receive a great deal of public investment, but it does not seem wise to single them out for special favor; especially when a growth-centerstrategy based on intermediate-sized cities offers more opportunities in terms of existing external economies than do small towns and rural areas, and fewer diseconomies than do the big cities.

Without speaking of disadvantages, do the big cities have real economic advantages over intermediate-sized cities? The issue here is not one of optimum size, but rather of the minimum size required to provide the range of services needed by people and firms and the impact of size on growth potentials.

Brian Berry has found that above a population of 250,000 "the necessary conditions for self-sustaining growth seem satisfied", and he suggests that the greatest pay-off in terms of increasing employment and reducing unemployment would be to use "the public treasury to enable centers close to this point to achieve self-sustaining growth" rather than to put resources into places much smaller than this maximum.[13]

Wilbur Thompson proposes that there is an urban-size ratchet and that when the population growth of an urban area reaches a critical size of around 250,000 it appears that "structural characteristics, such as industrial diversification, political power, huge fixed investments, a rich local

market, and a steady supply of industrial leadership may almost ensure its continued growth and fully ensure against absolute decline---may, in fact, effect irreversible aggregate growth."[14] My colleague Jean Shackelford has investigated what happens to Standard Metropolitan Statistical Areas (SMSAs) as they approach the 250,000 population level. She employed population data at ten-year intervals between 1900 and 1960, as well as estimates for 1965, for each of the 231 SMSAs as defined in 1967. Of these, 100 fit into the category of interest in that they had arrived at a population of 250,000 during the 65-year span. In general, she found that there tends to be a growth-spurt threshold, but suggests that it tends to be in the 150,000 to 200,000 range, somewhat lower than the usual estimate. However, there is no evidence of automatic self-sustained growth following the spurt.

Australian data indicate that most of the advantages of a city of 500,000 probably also are found in a city of 200,000, but that if a city gets much beyond the 500,000 level external diseconomies are likely to begin to outweigh the concomitant economies. On the basis of Australian experience Neutze suggests that many firms will maximize their profits in centers with populations between 200,000 and one million.[15] In an earlier study Colin Clark examined structural differences in American, Canadian, and Australian cities of different sizes. He concluded that a city of about 200,000 provides practically all important services and that it is "full grown" with respect to manufacturing at a population level of around 500,000.[16]

Such data as we have with respect to the provision of public services indicate that both small towns and big cities fare worse than intermediate-sized cities. For example, Werner Hirsch estimates that the greatest economies of scale occur in the 50,000 to 100,000 range, whereas the Royal Commission on Local Government in Greater London found the range to be from 100,000 to 250,000.[17] Gordon Cameron finds a "U-shaped" infrastructure cost curve with the minimum cost lying between somewhat less than 30,000 and somewhat more than 250,000.[18] Critics of such studies usually point out the difficulty of holding the quality of services constant when estimating costs. However, the fact that these studies almost invariably find the range of maximum efficiency to be considerably less than the size of our big cities suggests that until evidence is produced to the contrary the burden of proof lies with the defenders of the big city.

Finally, it is pertinent to note the conclusion drawn by participants at a conference---sponsored by the International Economic Association---in response to the question, "How large must a successful growth point be?" E.A.G. Robinson reports:

> the general sense of our discussions was that the minimum size of growth points that experience had shown to be successful was nearer to a population of 100,000 than to one of 10,000, and that even 100,000 was more likely to be an underestimate than an overestimate. It must be large enough to provide efficiently the main services of education, medical facilities, banking, shopping facilities. . . Above all, it must be large enough both to provide an efficient infrastructure of public utility services, and to permit the early and progressive growth of external economies for its local industries.[19]

In other words, though it is agreed that small towns rarely make viable growth centers, the intermediate-sized city often does have the necessary conditions.

The foregoing discussion suggests that encouraging (or at least not discouraging) migration from lagging areas may be coupled with a growth-center policy based on external economies in cities in the 200,000 to 750,000 population range. Of course, these are rough indicators, not magic numbers, and the limits could be made flexible to accommodate cities in, say, the 50,000 to one million range. There is evidence for believing that self-sustained growth is easier to maintain in a city of 200,000 than in smaller places. On the other hand, external diseconomies may make expansion of alternative locations desirable from an opportunity-cost viewpoint after a city passes the 750,000 mark. It has been proposed that the solution to finding an optimum city size consists of finding the "point at which the economies of scale (or agglomeration) are equalled or exceeded by the diseconomies."[20] Although measurement of these variables is not a realistic prospect for the foreseeable future, the formulation of the problem in this manner is not quite correct. Even if expansion of a big city yielded a positive net social product it would be preferable to have the expansion take place in an intermediate-sized city if the net social product were even greater there. The case for the intermediate city is based on considerable evidence that it has most of the external economies of a big city but that it has not yet become a generator of significant external diseconomies.[21]

The emphasis that is given here to the development of intermediate cities as the principal focus for a national regional policy is based not only on the job growth potential of these cities, but also on the fact that problems related to their growth are still amenable to solution. The massive renewal needs of large metropolitan areas can still be avoided by careful planning in growth centers. Unless the government knows what places are going to grow it can provide public facilities only after the demand has appeared. If there is planned growth of a relatively few centers, then they can be provided with an integrated and coherent system of public facilities in advance of the demand. Of course, it is not necessary that a growth center be limited to one city. A system of cities or towns linked by adequate transportation and communications might serve as well or better. Such a system could take the form of a cluster of urban centers or a development axis.

SOME ISSUES NOT IN QUESTION

A number of issues frequently present in discussions of growth-center theory and policy have not been dealt with in this paper because I do not believe that they are very helpful, at least in the context of the United States. For example, frequent reference is made to the nation of "balanced" growth or a "balanced" distribution of economic opportunity. However, it is rarely specified in more concrete terms what this means.

Does it mean that equality of per capita public overhead capital, income, or economic activity (however defined) should be the goal of development? Should the growth of less-developed regions be promoted solely by moving resources to them or creating new resources within their boundaries? Precisely what public and private activities should be located in various types of cities and regions? What effects will the location of various types of activities in a given region have on other regions as a result of induced activities (on both the supply and demand sides) of an interregional nature? What conflicts might arise between maximizing regional and national welfare and how should they be resolved? It would seem apparent that until we are able to answer such questions as these the appeal to balance is not operacionally feasible. Of course, the fact that answers to some of these questions involve explicit or implicit value judgements that the economist must take as given does not preclude attempts to find out the nature of public preference patterns.

In addition to the notion of spatial balance, American growth-center policy has been based on the alleged ability of growth centers to help spread economic activity into their hinterlands. This emphasis is current in scholarly publications as well as in government policy. For example, the following definition of a growth pole was once agreed upon at a seminar in the regional science department at the University of Pennsylvania.

"A growth pole is an urban centre of economic activity which can achieve self-sustaining growth to the point that growth is diffused outward into the pole region and eventually beyond into the less developed region of the nation."[22]

A related preoccupation in scholarly approaches to growth-center policy in the United States is central-place theory and the analysis of urban hierarchies.[23] The relationship between this kind of study and studies that view growth centers in terms of spread effects is close because communication of growth involves transmission of stimulating effects through an urban hierarchy. Thus, although growth-pole theory originated in France in part as a reaction to central-place theory, it is instructive to give somewhat more detailed attention to the incorporation of central-place theory into some versions of growth-pole theory.

The boundary of a polarized region is often defined as the line beyond which flows and connections are predominantly in some other direction, toward some other pole. A polarized region can exist at any scale and smaller polarized regions will tend to "nest" within larger ones. The idea of a polarized region is therefore compatible with the central-place structure of a hierarchy of cities of ascending size and function, with the growth centers normally being the larger city or cities in the region, at whatever scale is being considered.

The "range of a good" and "threshold population" are the key concepts in central-place theory. The range of a good denotes

the zone around the central place from which persons travel to the center to purchase the good or service offered at the place. In theory the upper limit of this range is the maximum possible sales radius. Beyond this limit the price of the good is too high because the distance results in too high a price or because of the closer proximity of consumers to alternative centers. The lower limit of the range is the radius that encloses the minimum number of consumers necessary to provide a sales volume adequate for the good to be supplied profitably from the central place. This lower limit is the threshold population. The lowest level of center performs certain functions or provides certain goods that are limited in number and kind by the limited population within usual range of the center. The center of the next highest order performs all the functions of the lower-order center plus a group of additional functions. The next higher order of center will offer all the goods offered by the first two levels, but will be differentiated from the order just beneath it by a group of goods with greater ranges than those possessed by any of the goods of the next smaller center. In this manner a hierarchy of centers is determined. It should be pointed out that population by itself is not a good measure of centrality. A large specialized-function town may have only a small tributary area and little influence on its surrounding hinterland. Thus, centrality is generally discussed in terms of centralized services, including administration, culture, health, social services, organization of economic and social life, finance, trade, service industries, the labor market, and traffic.

One question encountered in the study of urban hierarchies is whether differentiated classes actually exist as discrete entities. The number of classes in any given study may be a result of arbitrary decision, whether conscious or unconscious. Moreover, if discrete classes actually exist, they may vary among countries or even among regions within a single country. An even greater problem is identifying precisely how growth is transmitted through a given hierarchy. Central-place theory is essentially static, but what is required is an explanation of the dynamics of growth in its spatial dimensions. Research into the spatial diffusion of innovations through the urban hierarchy has attempted to remedy this difficulty. It has indicated that new innovations will spread where there is a developed communications network, but that there may be a considerable time lag in the process of diffusion from the innovating center to its hinterland and to major centers in peripheral areas. However, Richardson accurately maintains that

> this theory is an inductive theory, developed from particular cases that are not representative of the many different types of innovation. In particular, case studies have been based on new types of consumer goods rather than on industrial innovations and new production techniques. Yet when we are considering the impact of the spatial transmission of technical progress on growth in fringe areas, it is these latter innovation categories that we have in mind.[24]

For innovations to be adopted in peripheral regions more is required than a well-developed communications system and outward-looking major cities. The peripheral region must have people and organizations capable of evaluating the potential of new innovations and of taking risks. However, the agglomeration economies of the innovating center will probably keep

growth industries and their personnel closely tied to the center. Branch plants of national firms may be sources of receptivity to new innovations, but they are not likely to flourish in industries with sizable economies of scale. Also, "If economic conditions favour a fast growth in factor inputs at core areas, these same conditions are likely to result in these core areas being the main innovation centres in the economy and to militate against a rapid, wide diffusion of technical progress to outlying regions."[25]

Finally, a distinction must be made between growth centers and new towns, since the two notions are sometimes associated or considered identical. New-town proposals call for completely new urban centers while growth-center strategies are based on existing places. New-town advocates usually espouse self-contained labor markets, while the growth-center approach taken here stresses the role of job creation for migrants from other--though not necessarily distant--areas. New towns are also generally proposed as means for channeling population growth away from large cities; although growth centers may also perform this function, their primary function is to provide economic opportunities for persons from areas with limited opportunities.[26] Existing examples of new towns--most notably Columbia and Reston near Washington, D.C.--may prove to be successful experiments in town planning, but they are primarily vehicles for relocating people within a metropolitan area. Their costs are such that they have little relevance to people in the income categories of migrants from lagging regions.

In sum, then, the approach of this paper assumes not only that economic growth is spatially unbalanced as a matter of fact, but also that growth-center policy should be based on unbalanced growth, favoring urban places that are intermediate to congested areas on the one hand and lagging areas on the other. It also concentrates on growth centers as poles of attraction for commuters and migrants and gives less emphasis than most approaches to growth centers as generators of spread effects. Relatively little use is made of central-place theory or new-town concepts. Finally, it should be stressed that there is a clear need to coordinate growth-center policy with human resource development in lagging regions; similarly, many problems of "regional development" might be dealt with more effectively if they were treated as problems of human resource development and manpower mobility.

RESEARCH NEEDS

It is essential that a greater research effort be devoted to the economic and social trade-offs between migration of workers to jobs and efforts to move jobs to workers, especially when the workers in question are living in areas that have been lagging in terms of income, or employment opportunities or both. There have been numerous studies of migration patterns, as well as of the adaptation of migrants from rural areas to urban places. Yet we know remarkably little about what incentive it would have taken for these migrants to have remained at home, or about how many rural workers are at the

margin with respect to migration and what would in fact induce them to migrate. Indeed, we know very little generally about the location preference patterns under various conditions of the persons who are supposed to be the object of rural development policies.

A great deal of research related to the growth-center notion has not been very helpful because, although it has analyzed the agglomeration process in terms of external economies, it has failed to spell out how beneficial spread effects may actually be transmitted to lagging hinterlands. Growth center theory and policy have also tended to focus on infrastructure investment in the narrow sense, and have thereby diverted attention away from the critical health, education, and social problems that characterize most lagging regions.

Future growth-center research should give less emphasis to the promotion of growth in lagging areas and give greater attention to criteria for choosing viable intermediate urban centers; and it should put more stress on the manpower aspects of migration and commuting to intermediate cities.

There is a limited but varied body of evidence suggesting that many persons in lagging areas would not mind moving--and might even prefer to move--to intermediate-sized cities not too distant from home. The Department of Labor recently carried out a number of labor-mobility demonstration projects in which a number of other agencies cooperated. In addition, the Employment Assistance Program of the Bureau of Indian Affairs has an on-going program to aid in the voluntary relocation

of Indians from reservations to urban areas. These limited undertakings have indicated that while it may be true that a poor worker may not want to move if this simply means being thrust into an alien environment, he frequently is well-disposed toward moving if he can receive comprehensive moving assistance, including training and help in finding a job, help in finding housing and in making contacts with schools, religious and social groups, and general assistance in adapting to an urban environment. More pilot projects and research need to be devoted to discovering the opportunities potentiality available in migration to intermediate-sized cities.

There are, of course, many persons in lagging rural areas whose prospects for either local employment or for retraining and migration are not bright. For example, an unemployed or severely underemployed coal miner in Appalachia or farmer in the Mississippi Delta who is fifty-five years old is not likely to find much solace from such efforts. On the other hand, evidence from both the United States and other countries indicates that efforts to force feed the economic development of large lagging areas are not only inefficient, but also largely ineffective. Those firms that are induced to locate in lagging areas are usually marginal in nature; they pay low wages and often will move on when a better subsidy presents itself. Nevertheless, there will always be marginal firms, and they may have an important role to play in giving employment to immobile persons in lagging areas--though marginal firms gravitate toward these areas even without subsidies.

Cooperatives may also be useful in providing employment for these persons; the recent research of Ray Marshall should provide useful insights into this neglected approach. In any event, much more realistic and thorough research needs to be undertaken on the matching of marginal economic activities with marginal workers who are unlikely to find any other kinds of employment.

At present, manpower legislation and regional development legislation are bifurcated, to the detriment of both. Much more understanding of how they can be coherently integrated is needed. Research possibilities along this line are abundant. Not only should specific policies and projects be examined, but the shold question of the regionalization of the country for planning purposes must be considered. For example, should development regions be defined primarily on the basis of their low income and high employment, as is now the case? Or should regions be defined to include promising growth centers as well as poverty areas, so that problems and opportunities can be dealt with in a common planning framework? A great deal more needs to be discovered about the role that some cities may perform as "half-way houses" that provide jobs to migrants and commuters who may later move on to other urban areas.

Just as the problems of lagging rural areas (and declining or stagnant industrial areas) need to be related to opportunities in genuine urban-growth centers--and all evidence indicates that an overwhelming proportion of future employment growth will be oriented to SMSAs--the problems of the people or

urban ghettos (many of whom have come from poverty-stricken rural areas) need to be related to employment opportunities in metropolitan suburbs. It still is not clear that efforts to attract economic activity to the ghettos will be more successful than those to industrialize the countryside. Moreover, the jobs that are growing fastest in central cities tend to require clerical, managerial, or similar skills that are not readily attainable by many ghetto residents, though the situation undoubtedly would be better were it not for discrimination. However, discrimination also works to keep ghetto residents from moving to the suburbs where manufacturing jobs are growing rapidly. Urban economics and the economics of poverty need to be more closely integrated, just as do manpower and regional economics. Programs for dealing with ghetto poverty should not be implemented without regard to the broader economic forces that are shaping the nature and location of employment opportunities within metropolitan areas. It is apparent that a great deal of study is necessary to fill the gaps in our knowledge of these issues.

These proposals are, of course, far from exhausting even the broad needs for further research on the problems of people in lagging rural areas and related problems of metropolitan central cities. They do indicate, however, that relevant research needs to abandon any suggestion that problems of local or regional poverty can be dealt with as though they are isolated from a national system of forces operating on both the supply of and demand for labor with various degrees of education and training.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Agriculture

The authors of these chapters have considered some problems of rural development, with special emphasis on increasing and maintaining incomes of low-income groups. A basic problem for rural areas has been labor surpluses generated in large measure by the rapid displacement of people from agriculture who have not been absorbed in nonfarm jobs or who have not migrated from the area. This displacement process has had particularly severe implications for blacks. We conclude that the displacement of small farmers has not been due to the greater efficiency of larger farms but to (1) United States agricultural policy, which favors large farmers; (2) discrimination in United States agricultural programs against black farmers in particular and small farmers in general; (3) technology, which has reduced labor requirements and increased the capital investment required for an optimal family farm; (4) the limited education and experience of many small farmers to adapt to the new technology and take full advantage of United States agricultural programs; and (5) the inaccessibility of credit to enable small farmers to take advantage of technological innovations.

Despite these historical trends, developments during the early 1970s portend some reversal in American agricultural production and offer some prospects for increased employment in this sector or at least a significant reduction in the rate of

displacement. The first of these was increasing foreign demand for United States agricultural output as a result of worldwide food shortages, rising incomes abroad, and the United States' comparative advantage in agricultural production. Second, the changes introduced by the 1973 Agriculture Act could stimulate increased agricultural production in the United States. The new program introduces target prices as a means of determining direct payments to farmers on cotton, wheat, corn, and grain sorghams. Target prices will be guaranteed on the acreage the secretary of agriculture determines to be necessary to meet domestic, export, and carry-over production needs and also will be guaranteed on full allotments to each farmer and not on one-half of the feed grain and domestic wheat allotment as previously. The farmer will be paid the difference between actual market prices and the target prices. This system, because of increased world demand, probably will end the production limitations that have characterized American agriculture since the 1930s.

Another provision of the 1973 act reduced the limitation on payments to any one farmer from $55,000 per crop to $20,000 per farmer. This provision could slow down the trend toward larger farm sizes.

There are three main forces still making it difficult for small farmers to survive in the United States. First, the large-farmer bias of the agribusiness system tends to cause business procedures, institutions, and technology to be biased against small farmers. Second, the tax system makes it possible

for larger farmers and nonfarm agribusiness operations to take advantage of depreciation and capital gains provisions that are of little value to smaller farmers. The third force is the instability of agricultural prices and production which makes it very difficult for small farmers to survive bad years and the unevenness of gains and losses over several years. Agriculture is unstable because of the competitive nature of the industry and because changes in output cause greater-than-proportionate changes in prices. The instability of agricultural prices has been aggravated by the increased importance of foreign trade for United States agriculture following the devaluation of the dollar in the early 1970s which made American agricultural products cheaper to foreigners, and by the fact that the planned economies, especially the Soviet Union, have started adjusting to their own crop shortages by purchasing in international markets rather than restricting consumption. Stabilizing agricultural prices could make it possible for more small farmers to survive, as would greater availability of credit and technical assistance.

These are the conflicting pressures that work to cause the displacement of small farmers, but future displacements cannot be as great as they have been in the past if for no other reason than that a relatively small number of workers remain in agriculture.

Migration and Relocation

Migration has been examined extensively here because many see the exodus of people from agriculture and rural areas as the best way to improve the conditions of those who move and those who remain.

As Stephen McDonald demonstrates in his paper, farm out-migration is motivated mainly by economic considerations, although noneconomic factors also are at work, and many of those who migrate do not in fact gain from migration. Using social security data, Hathaway and Perkins found that 40 percent of those who migrated from agricultural to nonagricultural occupations lost income the first year, and many of those who lost income returned to farm employment.[1] Moreover, the first-year gains of migrants were inversely related to age; migrants over forty-five years of age were more likely to lose the first year, and those under forty-five were more likely to gain.[2]

However, it should be emphasized that these studies refer to occupational and not geographic mobility, because many of those who change from farm to nonfarm occupations do not move their residences. For example, in a study of farm-to-nonfarm mobility in the period 1957-1960, it was found that close to one-half of those who changed from farm to nonfarm occupations sustained losses in earnings and that two-thirds of those who changed from farm to nonfarm employment did not migrate. Non-migrants were most likely to be those who were from low-income areas. Workers from those areas therefore relied most heavily on local labor markets.[3]

The Economic Research Service of the U.S.D.A. has discovered some interesting aspects of the ability of black rural-to-urban migrants to function in urban labor markets. This, and other research, suggests that blacks who migrate from the rural South to the urban North apparently have equal or greater employment and income stability than blacks with the same attributes born in those urban areas or blacks who move there from other northern

urban areas.[4]

The 1970 census provides some insight into the reasons why southern blacks migrating into northern labor markets have higher earnings and less unemployment than blacks with similar characteristics born in those northern places. Census data show that southern-born black men are more likely to be in the labor force, more likely to be married, and more likely to be living with their spouses than are northern-born men living in the same places. In the New York City SMSA, 65 percent of New York-born black men were in the labor force, as compared with 78 percent of southern-born men who migrated to New York by 1965 and 82 percent of those who migrated after 1965.

There is some evidence that those migrants who remain in urban areas for some time experience gains after a period of adjustment. In his paper cited by McDonald, Wertheimer estimates that, except for cities of 750,000, there were no gains from migration the first five years, but during the next thirty years, earnings differences ranged from $550 per year for cities smaller than 50,000 to $1,675 per year for cities of over 750,000.

Many studies have found farm-nonfarm migration to be strongly influenced by nonfarm unemployment. Indeed, nonfarm unemployment appears to be a more important determinant of off-farm migration than income differentials. High nonfarm unemployment influences migration by discouraging outmigration, by inducing the return to farming of many previous outmigrants who lose their nonfarm jobs, and by reducing the prospective returns

to outmigration. Blacks seem to be particularly handicapped in finding nonfarm employment during recessions.[5]

Although there is some disagreement over its significance, most students of labor markets seem to consider inadequate information to be an important deterrent to mobility. Johnson, for example, concludes that this is "probably the most important constraint" on the movement of the rural poor.[6] It is well known that blacks and southern whites depend heavily on friends and relatives for information; a study by Smith confirms this and found that most migrants from the South came into Indianapolis with information of a very low quality.[7]

As McDonald demonstrates, the persistance of the farm-income differentials can be explained either because (1) farm workers have substantially smaller earning capacity than urban workers, (2) farm workers lack response to the economic incentives, or (3) impediments to farm outmigration exist. There is substantial support for the first proposition.[8] However, other authorities disagree with this finding and conclude that the earning capacity of farm labor, when adjusted for such factors as education, age, and sex, is not very much less than that of nonfarm workers.[9]

Thus, there is some disagreement over whether the persistance of the relatively low incomes in agriculture is due to impediments to migration, to personal characteristics that give farm workers in particular and rural workers in general low income-earning capacities, or lack of response by agricultural workers to income differentials. Clearly, however, all of these have some validity but the evidence favors the conclusion that agricultural

workers have inadequate income-earning capacities. Moreover, most studies of the economic gains from migration seem to greatly underestimate the cost-of-living differentials involved in the farm-to-urban migration, which, as noted earlier, could be substantial. Cost-of-living differentials might greatly reduce the returns from moving to large places.

Relocation Projects

Because of the imperfections in the natural flow of people out of agriculture and out of rural areas, many regional and manpower specialists advocate relocation projects to "rationalize" labor markets by moving workers from labor surplus to labor shortage areas. A number of such pilot projects were tried under the Manpower Development and Training Act (MDTA) of 1962. These projects provided job information about the labor markets in the receiving areas, help in finding jobs, money for moving, and help in adjusting to urban industrial settings. Relocatees were required to have jobs in the receiving areas before they were given relocation assistance. Some fourteen thousand unemployed or underemployed workers were relocated under these projects. The average cost of each relocatee was about $850. These efforts generally were judged to be effective since most workers were placed on jobs that increased their earnings. Although no complete evaluation has been made, the available evidence suggest that the returns to successful moves more than offset the costs. However, many of those who were relocated returned to their original home

areas within a year. A complete evaluation must include the costs of these unsuccessful moves as well as the ones that were successful.

It is also not clear that these relocation projects helped people who would not have moved without relocation assistance. A preliminary examination of the results suggests that most of those who were moved probably would have moved anyway and that many of those who would not have moved without help returned to rural areas.[10] Probably, therefore, the relocation projects did more to influence the timing and direction of moves than to influence their number. Moreover, the relocation projects greatly improved the job information available to relocatees.

A major obstacle to the extension of the relocation projects after 1969 was political opposition from officials who were reluctant to see potential voters and taxpayers moved out of their districts. There also was some concern about the adverse effects on the places from which more productive workers were being moved. Congress therefore did not appropriate separate funds for these projects after 1969, but the U.S. Department of Labor carried out several projects thereafter with regular MDTA experimental and demonstration funds.

Although relocation projects clearly are not likely to be panaceas for the problems of the rural South, they can play a role, along with other manpower programs, in helping to counteract labor market imperfections. Clearly, however, these programs complement and do not substitute for other manpower programs.

Growth Centers

Another widely accepted approach to labor surplus problems is the growth center strategy "...designed to pro te the development of lagging regions by concentrating investment geographically so as to reap scale and agglomeration economies. In addition, growth centers also have been conceived as points of attraction for migrants who otherwise would go to large, congested areas."[11] However, as noted in his paper, Hansen, a leading authority on growth centers, concludes: "To date these strategies have not been notably successful, primarily because they have suffered from a tendency toward proliferation of a large number of relatively small centers. Moreover, even where a few large centers have been selected, inadequate funding has been a problem."

There also is a serious conceptual problem with growth-center strategies because they are not based on theoretical underpinnings that would provide "specific criteria for identifying the location of relevant urban centers, how big they should be, or what kinds of investments should be placed in them". A growth-center strategy nevertheless is sufficiently promising to warrant careful consideration as part of a human resource development strategy.

Rural Industrialization

Another suggestion for solving the problems of labor-surplus areas is industrialization. As Tom Till demonstrates in his paper, rural areas have experienced surprisingly high rates of growth in nonfarm employment, especially in manufacturing. There is, however, some question about the nature of rural industrialization

because of the imprecise definition of the areas covered. "Rural" and "nonmetropolitan" could mean the growth of industry on the fringes of major metropolitan areas, or they could cover industrialization that was some distance from major SMSAs. In order to get at this question, Tom Till found greater absolute nonfarm gains in SMSA counties in the South but greater relative gains in counties fifty miles or more from major SMSAs. Manufacturing employment grew more absolutely and relatively in the non-SMSA counties.[12] Till therefore concluded that the growth of manufacturing employment in distant rural counties had been both rapid and significant as compared with SMSA counties.

There is, however, some question about the extent to which rural industrialization provides jobs for the rural poor. Industrialization often does not provide many job opportunities for poor people in rural areas. The extent to which jobs are provided seems to be a function of the nature of the industry and skill requirements. Although development economists usually urge the attraction of high-wage firms, these enterprises often have the fewest employment effects for local people who are underemployed or unemployed. High-wage employers might not be able to find the skills they need in local labor markets, in which case skilled workers are imported from outside the areas. In other cases, these firms find sufficient manpower among younger, better-educated workers and therefore do not find it necessary to hire workers with limited education, even when the latter have the ability to do the work.

A number of studies cited by Till have confirmed the limited impact of industrialization on local labor surpluses. In a study of the impact of a Kaiser Aluminum plant in West Virginia, Gray found that of four thousand jobs created, only six hundred went to local people--the rest went to skilled outsiders. Similarly, a recent study in the Ozarks found industrialization to have bypassed the rural poor.[13] Another study of rural industrialization in the South found that the disadvantaged, particularly blacks, did not share proportionately in employment growth because new firms tended to cream local labor markets.[14] Although Tom Till's study found the poor to have benefited from rural industrialization, there was considerable variation from industry to industry and blacks had not shared proportionately in the job growth. This conclusion was confirmed in greater depth by Walker in his study of 244 Deep south counties with at least five thousand blacks in their populations.

Some specialists question the value of industrialization strategies, not only because of their limited impact on the rural poor but also because of skepticism about the ability to implement such a strategy. In his paper for this volume, for example, Hansen concludes on the basis of evidence from the United States and abroad that efforts to force-feed the economic development of large lagging regions are not only inefficient but also largely ineffective. Similarly, in his paper, McDonald, expressed skepticism of industrialization strategies because "...artificially locating industry would involve an indefinite subsidy (and social cost reflecting non-

optimal location), while subsidizing successful moves by farm people has a one-time, self-liquidating cost". Moreover, industrial development strategies often cause local governments to pay too much for industry through tax abatements that seriously reduce the ability of those governments to finance local services.[15]

As noted earlier, however, there is some evidence that low-wage, labor-intensive industries are more effective in providing jobs for people with limited education and skills than capital-intensive industries with high skill requirements. Since industry tends to adapt to the kinds of work forces available, local areas might attempt to upgrade the kinds of industry they attract by investment in education and skills. However, many people are likely to work in marginal jobs even if they migrate voluntarily or are relocated, so it might be effective public policy to provide limited subsidies to marginal industry, especially if employment in those industries also has desirable social consequences. Any strategy to improve the incomes of poor people must give heavy weight to noneconomic causes and benefits. For example, it might be more desirable to subsidize self-help activities that would make people largely (say, 80 percent) self-sufficient than to provide straight transfer payments to people who could not benefit from relocation or other manpower efforts. In other words, industrialization has had limited impact on rural labor surpluses, but a marginal industrialization strategy could be good public policy if safeguards were adopted to ensure that

the disadvantaged were employed in the firms brought in. Many firms would not require subsidies but would be attracted by such services as good informtion about local labor markets and indications that local leaders had favorable attitudes toward industry. Nevertheless, these kinds of activities probably are more influential in determining the particular place within which a firm locates after it makes a decision to locate in a certain larger area than they are in attracting firms that might have gone to other regions.

The inescapable conclusion from the available evidence is that neither migration nor industrialization is likely to solve the income problems of the people in lagging rural regions, which means that despite the relatively rapid development of rural areas, greater population growth will continue to take place in urban areas. Rural development policies might slow up this process and improve the economic lot of rural people, but it is not likely to reverse the process of urban growth. Nevertheless, as Niles Hansen emphasizes in his paper, conscious public policies can divert the flow of people from the largest cities, where the diseconomies of size outweigh the economies, to relatively smaller, intermediate-sized places that have most of the advantages of the very large places but lack many of the traffic, congestion, and environmental problems that characterize the largest cities.

Despite the obvious appeal of a growth-center strategy, however, it cannot solve the problems of all groups in rural

areas. For one thing, the evidence is fairly clear that few people other than younger, better-educated workers gain from migration when comparisons are made with similar rural people who did not move. Older groups with stronger rural ties often would be better off remaining in rural areas because they are less likely to benefit from moving and the economic and non-economic costs of movement are likely to be substantial.

But what are the prospects for rural development? Hansen, McDonald, and others are not optimistic about the ability to force-feed lagging rural areas, while Till found relatively rapid and significant nonfarm employment growth in rural areas. These views are not necessarily contradictory, though, because much of the rural manufacturing employment growth has been to take advantage of marginal labor supplies, and, in this sense, is not "induced" by public policies. Moreover, this kind of industry has done relatively little to raise rural incomes above the poverty level. Some higher-wage industry has located in rural areas apparently to gain access to raw materials, but this industry often hires people from outside the area or induces migrants from the area to return, which does little directly to improve the incomes of indigenous rural groups.

Thus, a major problem of the growth of rural nonfarm employment is not that it hasn't taken place, but that its benefits have not been evenly distributed. Nevertheless, rural nonfarm employment could be an important means of improving the conditions of rural people (even though their incomes remain low by

urban standards) who are not likely to benefit very much from rural-to-urban migration or who prefer to remain in rural areas.

What are the prospects for improving the quality of rural industry? There is some evidence that this occurs naturally in the long run. Marginal industry tends to be the first to locate in agricultural areas in order to take advantage of plentiful supplies of low-wage labor partially or completely displaced from farming, but higher-wage firms often follow these marginal firms and hire away those workers who have acquired some nonfarm skills. Nonfarm firms apparently adjust to the kinds of labor supplies available in a place. Areas of the South with plantation agriculture have had the most difficulty generating nonfarm economic development because very little human resources development has taken place in those areas, on the plantation or off. These also are areas of heavy black population concentrations, and could therefore partially account for the tendency of manufacturing employment to avoid these areas. The sharecropping system provided very little incentive for human resource development because the sharecropper made very few decisions about production and the planter had no incentive to provide education, training, welfare, and unemployment insurance or nonfarm economic development. It will therefore be very difficult for the black-belt plantation areas to generate nonfarm employment without much greater attention to human resource development. It would make more sense for these places to attempt to develop through human resource development than the usual business and tax subsidies, though the latter

might be unavoidable because so many areas already offer these inducements.

What are the prospects for agricultural jobs to halt the decline of rural areas? A basic cause of the problems of rural areas has been the displacement of people from agriculture who are unprepared by experience, education, or training for nonfarm jobs. There are reasons for believing, however, that this factor will not be as important in the future as it has been in the past. For one thing, displacement has reduced the farm population and work-force bases to the point where agriculture cannot possibly displace as many people in the future as it has in the past. There also are some indications that worldwide food and fiber shortages and American comparative advantages in agriculture could spur agricultural output during the 1970s. There is no assurance, of course, that greater agricultural output will necessarily increase employment, but it probably will at least tend to halt the decline.

There is a tendency for agricultural employment to become more permanent and require higher skills as agribusinesses increase in size and become more capital-intensive. However, without access to many benefits nonfarm workers take for granted--unemployment insurance, workman's compensation, collective bargaining rights--it will be difficult for farm employers to hold their more productive workers.

The availability of nonfarm jobs is related to the maintenance of agricultural work forces. The growing pattern is for farm operators to supplement their income from off-farm

sources. According to the 1969 Census of Agriculture, 52 percent of farm operators' income came from off the farm and smaller farmers, with gross incomes of $10,000 a year or less, got two-thirds of their income off the farm. Because of the seasonality of farming, farm families need these off-farm sources in order to supplement farm income, or, more accurately, small farmers supplement their nonfarm income by farming. A program to identify farming activities compatible with these farm-nonfarm earning patterns and give technical assistance to small farmers might increase the incomes of poor rural families.

Policy Implications

What are the policy implications of the analyses in this volume? The overwhelming conclusion is that economic development depends heavily on the quality of human resource development. The kinds of activities likely to promote rural human resource development include:

(1) Improvements in the quality and quantity of rural education, especially vocational-technical education to prepare people for nonfarm as well as farm jobs. Since low-income rural areas have limited ability to finance quality education, local financing will perpetuate rural disadvantages. Financing therefore should be on a national basis because migration makes the quality of work forces a national problem.

(2) Rural manpower programs to provide a better match between workers and jobs. These manpower programs include

measures to provide more and better labor market information, relocation, public employment, and job training. Rural areas participated in manpower programs during the 1960s, but not as much in proportion to need or population as did urban areas. This lack of access to manpower resources was due in part to the difficulties in extending manpower services to scattered rural populations; insufficient training facilities, especially for on-the-job training; limited job opportunities for those who were trained; a paucity of leadership to fight for manpower resources and to administer those programs that get funded.

These problems can be overcome by:

(1) Measures to increase and assure more equitable access to manpower resources. This could be done by formula allocations to substitute for the political weaknesses of those needing rural manpower resources. The formula should be more indicative of human resource needs than the unemployment rate, which does not measure people who would work if jobs were available, part-time workers, working heads of poverty households, or those working below their skill levels.

(2) Development of procedures to gear manpower programs to the unique problems of rural areas. These include efforts to compensate for the small number of rural manpower agencies by attaching manpower services to such existing entities as farmer's organizations, chambers of commerce, multicounty units of government, cooperatives, and workers organizations.

(3) Manpower programs should be closely coordinated with economic development activities. Manpower programs can be used for such diverse functions as training low-income cooperative managers, training small farmers in marketable nonfarm skills, building an information base in local labor markets as inducements to the location of industry in those areas, the training and relocation of people who are not likely to find suitable employment in a particular labor market, training as an inducement to industry location, and public employment for those who are not likely to benefit from industrialization or relocation.

The evidence in this volume suggests that unskilled people recently or incompletely removed from agriculture are unlikely to improve their incomes unless they increase their skills and productivity. Unfortunately, however, too much "training" during the 1960s was ineffective either, because it was really income maintenance or preparation for nonexisting jobs. An approach that gives promise of promoting a better match between jobs paying above the poverty wage and training for them is the so-called start-up training concept that closely coordinates training and industrial location.

(4) There also is a need for organizations in rural areas to facilitate the development process by adopting strategies and programs representing all of the interests of rural people. Unfortunately, low-income nonfarm workers, small farmers, agricultural workers, and low-income people generally, have

not been sufficiently organized to have much impact on public policy. It therefore would be in the public interest to promote organizations like unions, cooperatives, and community development agencies among these groups and to extend to agricultural workers the benefits of all protective labor legislation available to nonfarm workers. There is a special need for more vigorous enforcement of antidiscrimination laws in rural nonfarm employment in the South.

(5) Because there are few rural community development agencies, it also would be in the public interest to provide public development coordinators in predominantly rural counties, especially those where subemployment (unemployment, plus discouraged workers not in the work force, plus working heads of households) is high. These coordinators could be trained to identify program needs, help local groups formulate development plans, identify available resources and otherwise act as catalysts for development.

(6) In addition to technical assistance, there is a need for credit sources to make funds available to small farmers and nonfarm entrepreneurs.

The objective of rural development should not be to hold people "down on the farm", because agriculture is only one source of rural income and by itself will provide adequate incomes for few people. Nor should the development of rural nonfarm industry be designed to halt the rural-to-urban migration, because many people, particularly younger people with limited

rural attachments, will continue to migrate to urban areas. Rather, a rural development strategy should increase the options available to people and provide better information for making choices. Public policy in the United States has accelerated the displacement of people through subsidizing technological change, land, and capital and has done almost nothing to prepare displaced people for change. Rural development policy should make it possible for people who decide to leave rural areas to have the information and access to training and education to facilitate the adjustment. By the same token, public policy should make it possible for those who elect to remain in rural areas to develop themselves to the point where they can at least earn enough to elevate themselves out of poverty.

Such a policy should seek to reduce population pressure on our largest cities by making it possible for more people to remain in rural areas and diverting others to smaller places where jobs exist, help protect the environment by avoiding urban congestion, providing public service jobs to help reduce environmental decay, reduce welfare dependency by making people more self-sufficient, and promote the survival of small farmers who also might be rural nonfarm workers.

NOTES

CHAPTER II

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NOTES

CHAPTER III

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NOTES

CHAPTER IV

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CHAPTER V

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CHAPTER VI

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